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SERVICE MANUAL
for the
Kodak PACS LINK MEDICAL IMAGE MANAGER 100
Service Codes: 3433, 4223 - 1.2 GHz
Kodak PACS LINK MEDICAL IMAGE MANAGER 200
Service Codes: 1539, 4224 - 1.2 GHz
and the
Kodak PACS LINK 25 PRINT SERVER
Service Code: 3754

Kodak Service & Support

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This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

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Section 1: System Description

Introduction

This manual provides instructions for installation and maintenance of *Kodak* PACS LINK MEDICAL IMAGE MANAGERS (MIMs) with V_6.1 and higher software. These systems include the:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200)
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 (MIM 100)
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)

Note

The name "MIM," as used in this manual, applies to all of the above devices.

Note

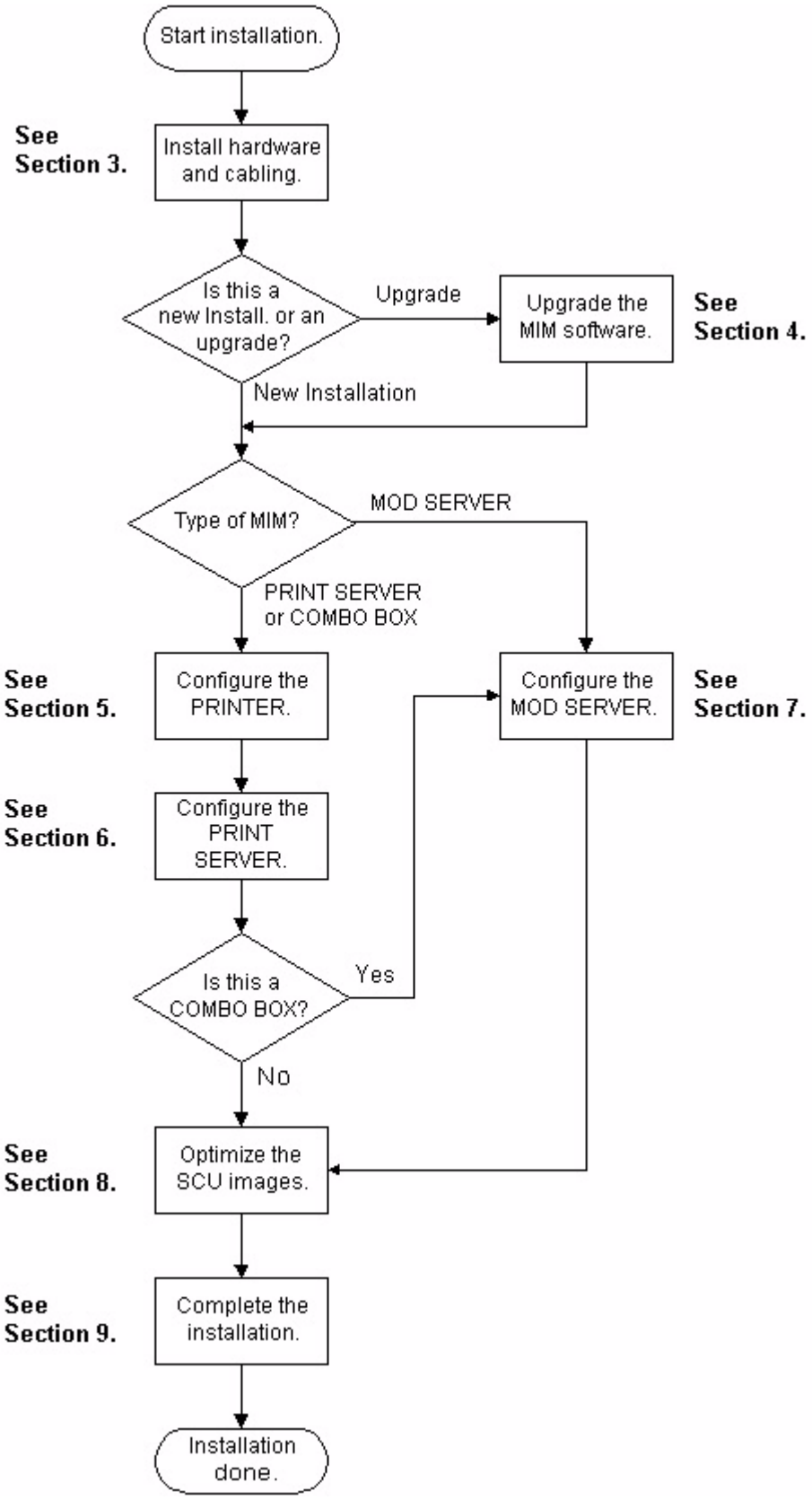
For MIM service manuals that apply to software versions older than V_6.1, See "Documentation" on Page 1–16.

How to Use this Manual

This manual includes 14 sections:

- Section 1 provides a general description of MIMs.
- Section 2 describes the hardware and software used as tools for installation and service.
- Sections 3 through 9 provide instructions for installing and setting up MIM SYSTEMS. The Field Engineer (FE) will not need **all** of these sections for **every** MIM. The sections cover "types" of MIM: PRINT SERVER, MODALITY SERVER or COMBINATION BOX. See Figure 1–1. For example, to install a MODALITY SERVER, reference to Sections 5 and 6 is not necessary.
- Section 10 includes procedures for changing MIM configurations.
- Section 11 includes procedures for troubleshooting a MIM.
- Section 12 provides parts information for V_6.1 and higher software.
- Section 13 provides additional information.
- Section 14 provides Warnings and Cautions

Figure 1–1 Installing and Setting Up a MIM



Overview of MIM Types

MIMs operate as MODALITY SERVERS, PRINT SERVERS, or both. See Table 1–1.

Table 1–1 MIM Primary Functions

Device	MODALITY SERVER	PRINT SERVER
MIM 200	x	x
MIM 100	x	
25 PS		x

- **MODALITY SERVERS** capture images from digital or video MODALITIES. They have the ability to add annotation to the images and develop STUDIES that include patient demographic data. The STUDIES are converted to DICOM 3.0 and sent to WORKSTATIONS, ARCHIVES, and PRINTERS or PRINT SERVERS on the network. See Figure 1–2.
- **PRINT SERVERS** receive DICOM 3.0 print-class images from remote users on a DICOM/*Ethernet* NETWORK, convert these images to the protocol required by a local PRINTER, and send the images to the PRINTER.

Note

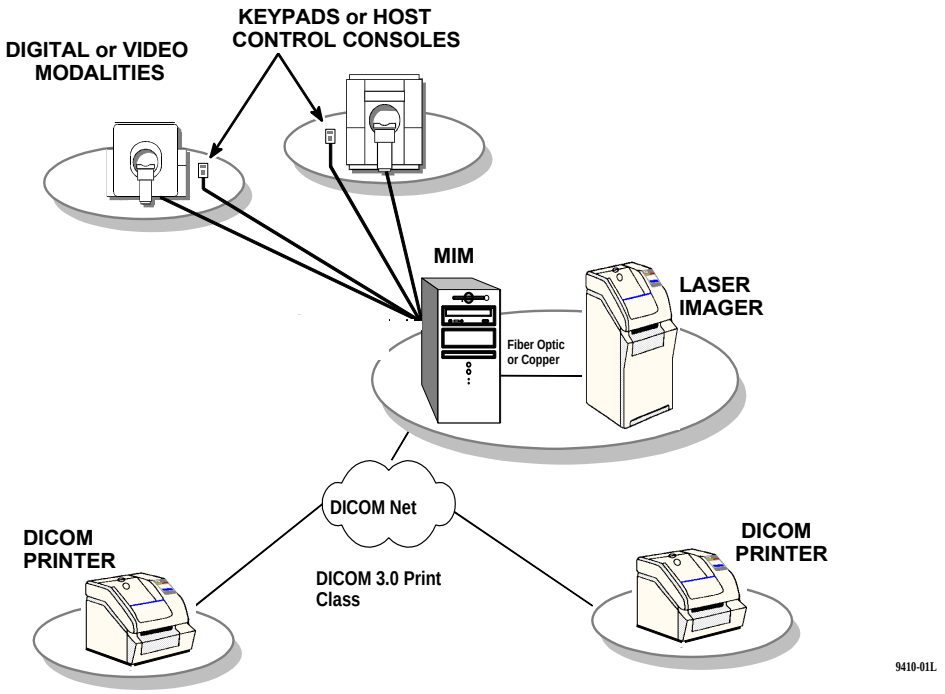
The MIM 200 can operate as both a MODALITY SERVER and PRINT SERVER. When it is set up to do so, it is identified as a COMBINATION BOX. The MIM 200 1.2 GHz only functions as either a MODALITY SERVER or a PRINT SERVER, but not a COMBINATION BOX.

A COMPUTER using *Windows* 2000 and application software from *Kodak* controls and processes the functions of the MIM. Special purpose INPUT and OUTPUT BOARDS are added to the COMPUTER for external communication.

The MIM does not include a MONITOR, KEYBOARD or MOUSE. For access to the MIM for service, the FE must connect:

- A LAPTOP COMPUTER, or
- A MONITOR KIT that includes a MONITOR, KEYBOARD, and MOUSE.

Figure 1–2 Example MIM 200 667 MHz, 1.4 GHz, and 2.4 GHz Setup



Printers Used with MIMs

The software version listed in the table indicates the minimum software version required for each product.

Table 1–2 PRINTER from PRINT SERVER Cross-Reference Chart

PRINTER	Print Type	Output Data Format	Interface CABLES	MIM 200	25 PS
Kodak Ektascan 1120 LASER PRINTER	Laser	Optical Interface Print Request	Fiber Optic	3.2	
Kodak Ektascan 2180 LASER PRINTER	Laser	Optical Interface Print Request	Fiber Optic	3.2	
Kodak Ektascan 160 LASER IMAGER	Laser	*Ethernet* HOSTCOM	*Ethernet*	3.2	
Kodak DryView 8100 LASER IMAGER	Laser	952/COPCIL	Copper	5.0	5.0
Kodak DryView 8200 LASER IMAGER	Laser	DICOM	*Ethernet*	4.0, 4.1	5.0
Kodak DryView 8300 LASER IMAGER	Laser	952/COPCIL	Copper	5.0	5.2
Kodak DryView 8500 LASER IMAGER / PLUS	Laser	Superset or 952/ FOPCIL	Fiber Optic	5.0	5.0
Kodak DryView 8500 LASER IMAGER / STANDARD	Laser	Superset or 952/COPCIL	Copper	5.0	5.0
Kodak DryView 8600 LASER IMAGER	Laser	Superset or 952/COPCIL	Copper	5.2	5.2
Kodak DryView 8610 LASER IMAGER	Laser	Superset or 952/COPCIL	Copper	5.0	5.2
Kodak DryView 8700 LASER IMAGER / PLUS	Laser	Superset or 952/ FOPCIL	Fiber Optic	5.0	5.0
Kodak DryView 8700 LASER IMAGER / STANDARD	Laser	Superset or 952/ COPCIL	Copper	5.0	5.0
Kodak DryView 8800 MULTI-INPUT MANAGER	Laser	Superset or 952/ FOPCIL	Fiber Optic	5.0	
Kodak DryView 969 HQ LASER IMAGER	Laser	Superset or 952/FOPCIL	Fiber Optic	5.0	
Kodak DryView 969 HQT LASER IMAGER	Laser	Superset or 952/ COPCIL	Copper	5.0	

Input Options

MIMs use the following interfaces for input of images:

Video Input:	A VIDEO INTERFACE BOARD is necessary.
Digital Input:	A DIGITAL INTERFACE BOARD which receives 8-bit Grayscale images is necessary.
Input from Network:	An *Ethernet* 10/100baseT circuit in the MIM connects to an *Ethernet* 10baseT or 100baseT NETWORK. The network connection is used for image input when the MIM is set up as a PRINT SERVER. Images received from the network must conform to DICOM 3.0 print-class protocol.

Input Data Formats Allowed

- Point-to-Point Grayscale Video
- Point-to-Point Color Video
- Point-to-Point Grayscale Digital
- KEYPAD Study Management Requests
- Autofilming: KCL, Siemens, 952/831, Hitachi, Toshiba, YMS
- DICOM Print Request: Grayscale or Color
- DICOM Part 10 File
- Patient Demographics: KEYPAD, KEYBOARD, HIS/RIS Broker
- DICOM MODALITY Worklist Management SCU: TOUCHSCREEN KEYPAD
- *3M*

Output Options

Network Output:	A NETWORK INTERFACE PORT on the MIM provides the connection for an *Ethernet* 10baseT or 100baseT NETWORK. A MIM can be set up to send images to as many as 25 print or store destinations on the network.
Local PRINTER Output:	The following options are available for output to a local PRINTER. Only one output BOARD can be included in a MIM.
Fiber Optic Output:	A FIBER OPTIC OUTPUT BOARD (FOPCIL) is used to drive LASER IMAGERS from *Kodak* with fiber optic inputs. The FOPCIL provides a digital output interface to match the digital input interface in LASER IMAGERS from Kodak. Both image and COM outputs are fiber optic. 2180 and 1120 LASER PRINTERS require a single FIBER OPTIC CABLE, and are driven by an OPTICAL INTERFACE BOARD.
Copper Output:	A COPPER OUTPUT BOARD (COPCIL) is used to drive LASER IMAGERS from *Kodak* with copper image and COM inputs. The COPCIL provides a digital output interface to match the digital input interface in these LASER IMAGERS.
Ethernet Output:	An *Ethernet* BOARD and CROSSOVER CABLE are used to drive the 8200 LASER IMAGER, the 160 LASER IMAGER, and the 3600 DMI.

Output Data Formats Allowed

- DICOM Basic Grayscale Print Management SCU: TOUCHSCREEN and PRINT KEYPAD
- DICOM Color Print Management SCU: TOUCHSCREEN and PRINT KEYPAD
- DICOM Secondary Capture Grayscale and Color Image Store SCU: TOUCHSCREEN KEYPAD
- MIM Optical Interface Print Request: 2180 and 1120 LASER PRINTER
- 10/100baseT *Ethernet* HOSTCOM Print: 160 LASER IMAGER
- 10/100baseT *Ethernet* DICOM Print: 8200 LASER IMAGER
- COPCIL: 8700 and 8500 LASER IMAGERS/STANDARD; and 8600, 8610, 8300, and 8100 LASER IMAGERS
- FOPCIL: 8700 and 8500 IMAGERS/PLUS, 8800 MULTI-INPUT MANAGER, and 969 HQ LASER IMAGER

Maximum Inputs and Outputs

Maximum inputs and outputs allowed for MIMs are described in Table 1–3.

Table 1–3 Maximum Inputs and Outputs for MIMs

MIM	Function	Maximum Inputs	Maximum Outputs
200	MODALITY SERVER (SCU), PRINT SERVER (SCP), OR COMBINATION	2 direct - Video or Digital. 1 network - DICOM	1 - Fiber, Copper, or *Ethernet* output
200 1.2 GHz	MODALITY SERVER (SCU) or PRINT SERVER (SCP)	2 direct - Video or Digital. 1 network - DICOM	1 - Fiber, Copper, or *Ethernet* output
100	MODALITY SERVER (SCU)	1 direct- Video or Digital	1 - DICOM
100 1.2 GHz	MODALITY SERVER (SCU)	2 direct- Video or Digital	1 - DICOM
25 PS	PRINT SERVER (SCP)	1 network- DICOM	1 - Fiber, Copper, or *Ethernet* output

INPUT and OUTPUT BOARDS

The INPUT and OUTPUT BOARDS used in MIMS are identified in Table 1–4.

Table 1–4 INPUT and OUTPUT BOARDS

Type of BOARD	MIM 200 2.4 GHz	MIM 200 1 GHz	MIM 200 1.2 GHz	MIM 200 667 MHz	MIM 100 433 MHz	MIM 100 1.2 GHz	25 PS
Input							
PRIMARY *Ethernet* 10/100base T	*	*	*	x	*	*	*
NETWORK ISOLATION (EEC countries)	x	x	x				
VIDEO 60 INTERFACE	x	x		x			
VIDEO 150LC INTERFACE		x	x	x	x	x	
VIDEO 150 INTERFACE					x		
DIGITAL INTERFACE	x	x	x	x	x	x	
Output							
SECONDARY *Ethernet* 10/100base T	x	x	x	x			x
FIBER OPTIC OUTPUT (FOPCIL)	x	x	x	x			x
COPPER OUTPUT (COPCIL)	x	x	x	x			x
MIM OPTICAL INTERFACE		x	x	x			
Communication							
RS422 SERIAL I/F, 8-Channel	x	x	x	x	x	x	
POWER/RS422 DIST., 2-Channel							
RS-422, 1-Channel							x
MODEM***	x	x	x	x	x	x	x
* PRIMARY Ethernet connection is on the MOTHERBOARD of the COMPUTER. *** An EXTERNAL MODEM is an option on the MIM 200 - all, 25PS, and MIM 100 1.2 GHz.							

Note

For MIM's with software V_6.1 and higher, the boards must be installed in the correct slots in order for the system to boot. See "MIM 200, 1.2 GHz - BOARDS" on Page 12–6 and "MIM 100, 1.2 GHz - BOARDS" on Page 12–7.

MODEM for Remote Service Access

To provide FEs with remote access, an optional MODEM can be included in MIMs. For MIMs manufactured with V_6.1 software, an external MODEM is used. An external MODEM is used on the MIM 100 when installed outside the U.S. or Canada. An internal MODEM BOARD is used in the MIM 100 within the U.S. and Canada.

If 2 or more MIMS are connected on an *Ethernet* NETWORK, a MODEM is necessary for only one of the MIMs. To connect to a MIM without a MODEM, the FE makes a call to the MIM with the MODEM. The call can then be routed to any other MIM on the network.

User Control

Operators use either a KEYPAD or a host control CONSOLE to acquire images, select output destinations, and print the images. There is a separate KEYPAD or host control CONSOLE for each directly-connected MODALITY.

MIMs can use 3 types of KEYPADS:

- TOUCHSCREEN KEYPAD - Used to control STUDY creation from a directly-connected MODALITY. This KEYPAD provides a number of features, including patient demographic acquisition for STUDY delivery to WORKSTATIONS and ARCHIVES. Only this KEYPAD can be used to send STUDIES to DICOM store destinations.
- PRINT KEYPAD - Used to control STUDY creation from a directly-connected MODALITY for delivery to print-only destinations such as LASER PRINTERS and LASER IMAGERS.
- DISPLAY KEYPAD - Used only for setup and STUDY management for a MIM operating as a PRINT SERVER, for which there is only a DICOM interface for STUDY acquisition.

For more information on user control, see the User's Guides for the MIMs.

HIPPA Privacy Feature

V_6.1 MIM software, includes a privacy feature that allows MIM users to comply with requirements of the Health Insurance Portability and Accountability Act (HIPPA). When the privacy feature is enabled, keypad operators must log in with a username and password to use keypad functions that provide access to patient protected health information. The privacy features are controlled from a "security console" web page that is resident on each MIM. A customer security administrator, working on a computer connected to the same local area network as the MIM, can access the "security console" web page to setup username/password accounts for each MIM keypad operator.

"MIM Service Application" Software

The "MIM Service Application" can be used by FEs to:

- Enter parameters for configuration of a MIM during installation.
- Do system management functions, such as backup and restore of configuration parameters.
- Do diagnostics such as viewing logs, running tests, and monitoring operation of the system.

The "MIM Service Application" is stored on the LAPTOP COMPUTER as well as in the MIM. For more information on this and other tools for service, refer to **Section 2, Tools - Hardware and Software**.

Service Access

The MIM does not include a MONITOR, KEYBOARD or MOUSE. For access to the MIM for service, the FE must:

- Connect a LAPTOP COMPUTER, or
- Connect a MONITOR KIT that includes a MONITOR, KEYBOARD, and MOUSE.

The MONITOR KIT connects directly to PORTS on the MIM. The LAPTOP COMPUTER can connect to the MIM:

- Over a dial-up serial line connection.
- Over an *Ethernet* network. The LAPTOP COMPUTER must contain an *Ethernet* interface for this connection.
- Over a dial-up telephone line using a MODEM.

When the LAPTOP COMPUTER is connected to a MIM, the FE can use it to run the “MIM Service Application.” Also, via *pcANYWHERE*, the FE can use *Windows* FEATURES such as *Windows* EXPLORER, *Windows* EVENT VIEWER, and *Windows* TASK MANAGER on the target MIM.

Note

The MONITOR KIT can also be used for service access:

- The “MIM Service Application” can be run with the MONITOR KIT because the service software is stored on the MIM as well as on the LAPTOP COMPUTER.
- The MONITOR KIT can be used to watch the boot process and access the BIOS on the MIM.

When a MONITOR KIT is used, a LAPTOP COMPUTER with “SecureLink” is also required to unlock the *Windows* DESKTOP.

Setting Up the MIMs

The following figures provide examples of systems using MIMs.

Figure 1–3 MIMs and other Devices on the Network

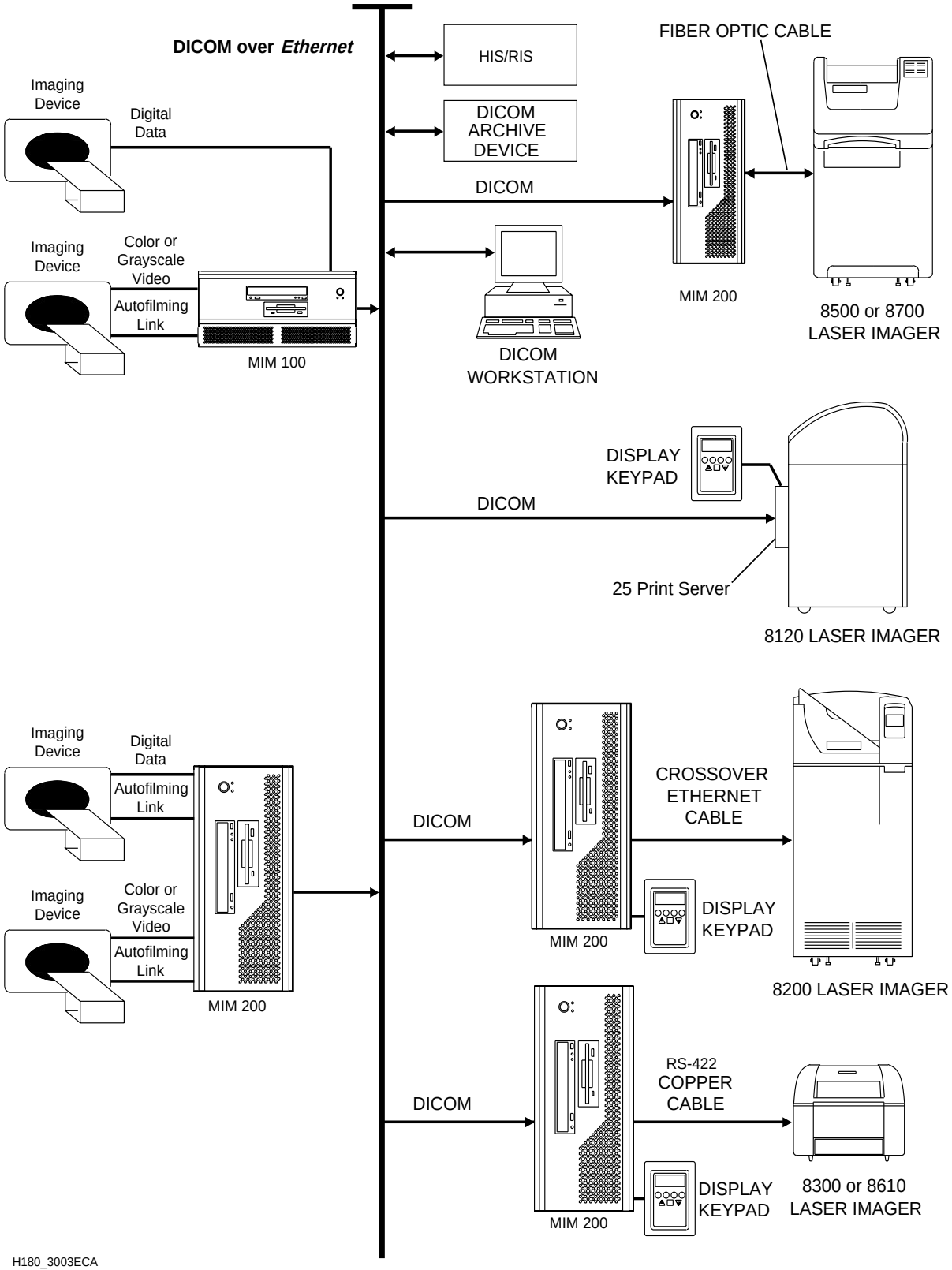


Figure 1–4 MODALITY SERVERS

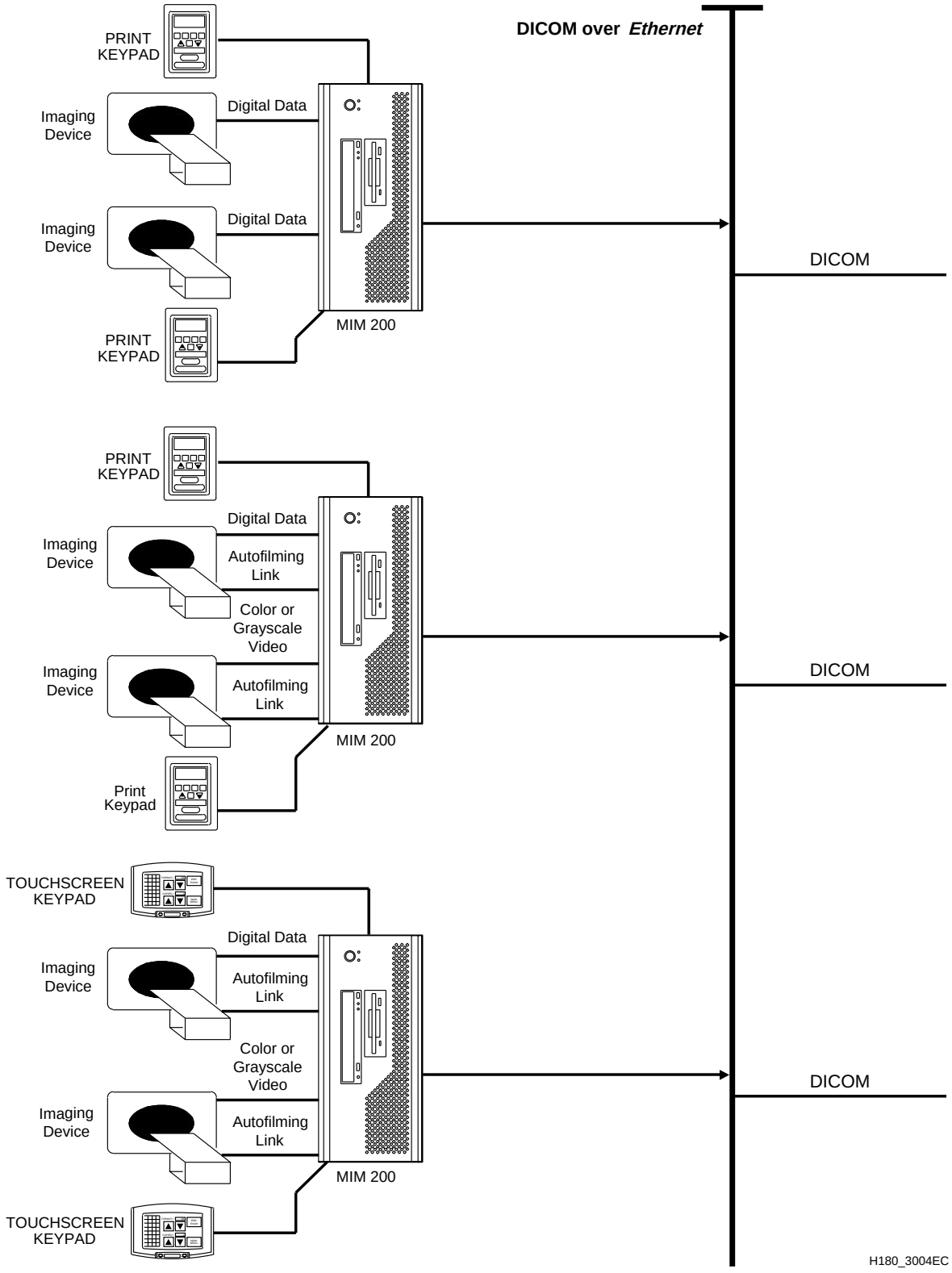
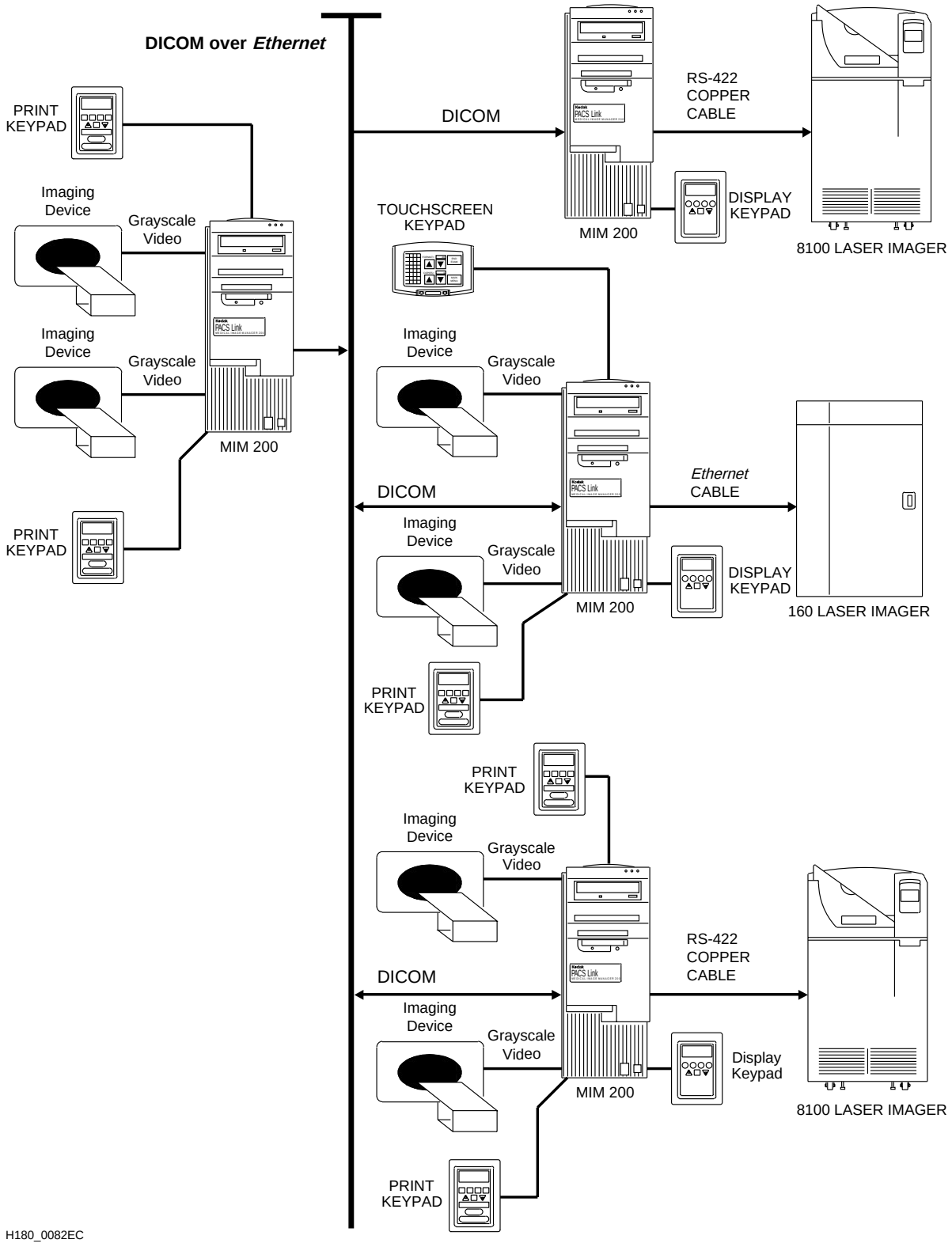
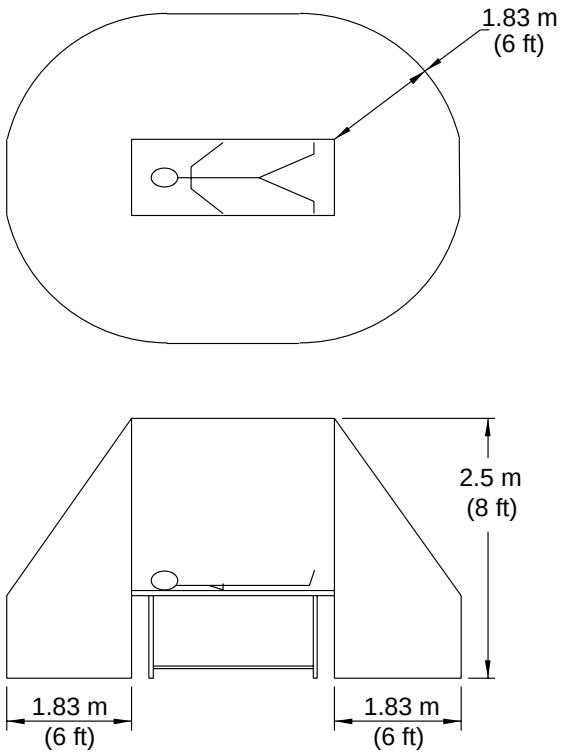


Figure 1–5 MODALITY SERVER, PRINT SERVER, and COMBINATION BOXES



MIM 200 and 25 Print Server: Patient Environment

Figure 1–6 **Minimum Distance between the MIM 200 or 25 Print Server and the Patient Contact Equipment**



Warning

The following installation requirements **must be met worldwide** for the MIM 200 and the 25 Print Server and their accessories; e.g., keypads, footswitches, keyboards. Refer to the illustration at the left, which identifies the patient environment.

- Minimum distance from device or accessory to Patient Contact Equipment; e.g., Ultrasound:
  - Horizontal: 1.83 m (6 ft)
  - Vertical: 2.5 m (8 ft) above the floor under the patient
- Contact of patient and device or accessory simultaneously by caregiver is **not** allowed.
- Direct electrical connection between device or accessory and Patient Contact Equipment is **not** allowed.

Note

The requirements are based on the EN60601-1 Standard.

Important

The MIM 100 *can* be installed within the patient environment.

MIM 200 product placement in the European Economic Community (EEC), see "Kodak PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200) Safety Requirements Change" on Page 14–4.

History of Software

Table 1–5 Versions of Software for the MIM

Version	Features of Software
V_1.x	Original version, for MIM 100 only. Developed for the SPOOLER for DICOM PRINTERS market. Used the CP DICOM Input Package to connect with the XLP, 1120, and 2180 LASER PRINTERS over the network. Used DICOM to connect to MLP 190. Features included: • Grayscale video image acquisition, 8-bit, 1-150 MHz • Digital image acquisition, 8-bit • DICOM Basic Grayscale Print Management SCU • Autofilming control: 952, P831, KCL, Hitachi, YMS, Toshiba, and Siemens • Image delivery to a single destination chosen from a list of all available destinations • 10baseT-twisted pair, 10base2-thinnet, 10base5-thicknet using TCP/IP
V_2.x	For MIM 100 only. Developed for the Image Distribution for Diagnosis and Review market. Added: • 12-bit digital image acquisition • DICOM Store SCU for Study Delivery to WORKSTATIONS and ARCHIVES • DICOM Worklist SCU for HIS/RIS Gateway access to retrieve patient demographics • Manual patient demographics entry via TOUCHSCREEN KEYPAD or full KEYBOARD • Automated patient demographics entry via HIS/RIS Gateway connection • Delivery to multiple destinations chosen from a list of all available destinations • Study re-delivery to any available destination • Native 100baseT support • Software licensing ability
V_3.x	Introduced MIM 50 and DPS. Developed for the DMI market and the DICOM SPOOLER for CP-Based PRINTERS application. Supported connection to the 3600 DMI and 1200 DMI. Added: • DICOM Basic Grayscale and Color Print SCP for receiving DICOM print jobs • DICOM Basic Annotation Box SCP for receiving text • Low Cost Color/Grayscale VIDEO 60 INTERFACE BOARD • Output to CP-Based PRINTERS via high-speed fiber connection
V_3.2	Introduced MIM 200. Developed for the LSI, DMI, and PACS (Cemax-ICON) business applications. Added: • Multiple direct connect inputs with or without DICOM input • Ability to acquire a mix of color and monochrome images on a single page • 9410 ACQUISITION SYSTEM MS emulation for 952 Autofilming Superset support • Connection database to provide user with ability to set image processing preferences within the spooler, source by source • Ability to create separate image series within a “study” for delivery to *AutoRad* WORKSTATIONS • DICOM Presentation PLUT support for interoperability with 9410 ACQUISITION SYSTEM
V_4.x	Added the ability to operate as a DPS for the 8200 LASER IMAGER, and features that can: • Support standard multi-up page formats used by the *Kodak Directview* CR 800 SYSTEM for DICOM delivery. • Rasterize page annotation tests, using a clear, sharp, true-size font onto a predefined location centered on the bottom of the page. • Use the “MIM Service Application” for configuration of an 8200 LASER IMAGER and a networked PRINT SERVER/8200 LASER IMAGER destination.
V_5.0	Adds to MIMs the features of the 9410 ACQUISITION SYSTEM and the 9405 PRINT SERVER, allowing a MIM to be a replacement for these in systems that connect to *Kodak DryView* LASER IMAGERS. This release allows connection to the 8700, 8500, 8610, 8300, 8200, and 8100 LASER IMAGERS as well as the 8800 MULTI-INPUT MANAGER, 160 LASER IMAGER and 969 HQ LASER IMAGER.

Version	Features of Software
V_5.2	Adds the features of cropping CR and DR images from *Kodak* and other manufacturer's systems including FUJI CR to provide true size printing using the MIM Print Servers. The MIM Print Servers have expanded *Kodak DryView* printer destinations including the 8300, 8600, and 8610 for the 25 Print Server and 8600 for the MIM 200 Print Server. A bar code reader option is supported on the modality servers, MIM 100 and MIM 200, to improve workflow for patient demographics. A network isolation board has been added to the MIM 200 for the European region.
V_6.0	Adds Privacy-Enable features to the MIMs for those customers desiring this feature. Expected usage is in DICOM Store and DICOM Worklist management applications. Also, the privacy feature may be used for the reprint capability of DICOM print applications. The privacy feature is optional and can be disabled. Incorporates SecureLink authentication and encryption for service connections to the MIM. Changes operating system on MIMs from *Windows* NT to *Windows* 2000. V_6.0 supports only the following MIM platforms: • MIM 100 - 433 MHz • MIM 200 - 667 MHz • MIM 200 1.0 GHz • MIM 200 2.4 GHz • Kodak PACS Link 25 Print Sever With V_6.0, the following items no longer supported: • MIM 50 • DPS (DICOM Print Server) • *Kodak* 3600 DESKTOP MEDICAL IMAGER • *Kodak* 1200 DESKTOP MEDICAL IMAGER Supports VPN remote access. Film border default setting = Image Dmax for 2180, 8900 and 160 applications. Date annotation format is configurable according to international requirements. Printing of patient demographics in the quotation box, at the bottom of the film, if DICOM Store is enabled. HISRIS enhancements: - Polling interval can be configured - Record retention window can be configured - Enable/disable scheduled procedure step start time - Enable/disable Study Description
V_6.1	• Adds support for embedded enclosure • Improves workflow for bar code reader by allowing use from Acquisition screen. • Uses image capture time in DICOM study date/time and page annotation date/time. • Supports underscore character in AE Title

Specifications

For machine specifications, see the SITE SPECIFICATIONS document for the MIM.

Documentation

Publication	Product	Pub. No.	Notes
SITE SPECIFICATIONS	*Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 and 200, and *Kodak* PACS LINK 25 PRINT SERVER	8E9891 NOV03	
QUICK REFERENCE	QUICK REFERENCE GUIDE for the KODAK PACS LINK MEDICAL IMAGE MANAGER with DISPLAY KEYPAD	8E8681 JUL03	LAMINATED CARD
	QUICK REFERENCE GUIDE for the KODAK PACS LINK MEDICAL IMAGE MANAGER 200 with PRINT KEYPAD	8E8682 JUL03	
	QUICK REFERENCE GUIDE for the KODAK PACS Link 25 PRINT SERVER	8E8684 JUL03	
	QUICK REFERENCE GUIDE for the KODAK PACS LINK MEDICAL IMAGE MANAGER TOUCH SCREEN KEYPAD	8E8683 JUL03	
SERVICE MANUAL	*Kodak* PACS LINK MEDICAL IMAGE MANAGER 100/200, *Kodak* PACS LINK 25 PRINT SERVER	8E8820 NOV03	CD for systems with V_6.1 application software.
USER GUIDES	Introduction to the *Kodak* PACS LINK PRODUCTS	8E8676 JUL03	
	USER'S GUIDE for the DISPLAY KEYPAD - for use with KODAK PACS LINK MEDICAL IMAGE MANAGER 200 and KODAK PACS LINK 25 Print Server	8E8678 JUL03	
	USER'S GUIDE for the PRINT KEYPAD - for use with the KODAK PACS LINK MEDICAL IMAGE MANAGER 20	8E8679 JUL03	
	USER'S GUIDE for the TOUCH SCREEN KEYPAD - for use with the KODAK PACS LINK MEDICAL IMAGE MANAGER 100 and 200	8E8680 JUL03	
	Security and Privacy Features - for use with the KODAK PACS LINK MEDICAL IMAGE MANAGER and 25 Print Server	8E9002 JUL03	
	Security Policy, Customer Security Obligations and Best Practices	8E9122 JUL03	
	USER'S GUIDE ADDENDUM for SOFTWARE VERSION 6.1 - for KODAK PACS LINK MEDICAL IMAGE MANAGER 100 and 200	8E9892 NOV03	

Glossary

10/100baseT	A CSMA/CD *Ethernet* LAN using Twisted Pair Wire with a baseband of either 10 Mbps or 100 Mbps. The IEEE standard for 24-gauge UTP for *Ethernet.*
ANSI	American National Standards Institute
ASL	Adaptive Speed Leveling: ASL keeps the MODEM on-line, operating at the highest possible speed and constantly checking data integrity.
AUI	Attachment Unit Interface: A 15-pin CONNECTOR, usually with a transceiver, used with *Ethernet* connection.
AWG	American Wire Gauge
CP	Common Protocol
CPOI	Common Protocol Optical Interface
CSMA/CD	Carrier Sense Multiple Access / Collision Detection
DICOM	The Digital Imaging and Communications in Medicine imaging standard.
DMI	DESKTOP MEDICAL IMAGER
EEC	European Economic Community
EIA	Electrical Industries Association
Ethernet	A passive COAXIAL CABLE that sends digital signals for a network in which the interconnections contain active elements. A LAN standard that uses a BUS topology with CSMA/CD access control. A LAN that can bridge operating systems and ignore inherent differences in data and file structures to promote reliable interconnections.
HIS/RIS	Hospital Information System / Radiology Information System
HUB	A central point or concentrator in a star topology where connections meet. Network communications flow through the HUB.
IP	Internet Protocol
LAN	Local Area Network: A combination of COMPUTER hardware and software that connects several COMPUTERS and peripherals to provide communication and access to shared data.
LUT	Lookup Table
MIM	Medical Image Manager
MODALITY	An Imaging Device.
MODEM	Modulator / Demodulator: A device that your COMPUTER uses to send data over TELEPHONE WIRES.
Mbps	Megabits per second
NEMA PLUG	The National Electrical Manufacturer's Association standard 3-pronged PLUG.
OI	Optical Interface
PACS	Picture Archiving & Communication Systems
PLUT	Presentation Lookup Table
Pre-staged	Equipment that was shipped with the MODALITY parameters installed and tested.
Protocol	Set of rules and procedures allowing COMPUTERS and peripherals to communicate.
Qualified Input	The MODALITY has been field tested with correct parameters. The database in the Service Software for the MIM might also include this MODALITY in the Qualified list.
RJ-11	4-WIRE MODULAR CONNECTORS for phone lines.
RJ-45	8-WIRE MODULAR CONNECTORS for *Ethernet* twisted-pair wiring.
RS-232, RS-422	EIA standards for physical and electrical specifications of a serial interface between a COMPUTER and a peripheral, for example, a MODEM.
RS-485	EIA standard for digital data connections between devices.
SCU	DICOM Service Class User.
SCP	DICOM Service Class Provider.

TCP/IP	Transmission Control Protocol / Internet Protocol: Set of communication protocols developed for the Defense Advanced Research Projects Agency (DARPA) to connect dissimilar systems. The TCP controls the transfer of the data, and the IP provides the routing mechanism.
TFT	Transfer Function Table
TSC	Technical Support Center
TSK	TOUCHSCREEN KEYPAD - Liquid Crystal Display (LCD) screen.
Twisted Pair	Wiring used in telephone systems and many networks, consisting of a pair of COPPER WIRES twisted around each other to counteract the effects of noise. Commonly used instead of coaxial *Ethernet* cable in network applications. Usually unshielded; however, the more expensive shielded version supports greater distance with less risk of electrical interference.
ULUT	User Lookup Table
Unqualified Input	The MODALITY has **not** been field tested.
UTP	Unshielded Twisted Pair
WAN	Wide Area Network

Section 2: Tools - Hardware and Software

Introduction

This section provides information about the tools used for installation and service of the:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200)
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 (MIM 100)
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)

The information in this section includes:

- ❒ Lists of hardware and software tools
- ❒ Procedures for configuring the LAPTOP COMPUTER
- ❒ Procedure for installing new MIM Service Application software
- ❒ Procedure for installing “SecureLink” authentication software
- ❒ Procedure for installing *pcAnywhere* REMOTE CONTROL SOFTWARE
- ❒ Procedures for connecting your LAPTOP COMPUTER to a MIM
- ❒ Description of “MIM Service Application” functions
- ❒ Procedures for starting the “MIM Service Application”
- ❒ Using *pcAnywhere* REMOTE CONTROL SOFTWARE
- ❒ Procedure for using a MONITOR KIT

Tools and Accessories

Hardware Tools

	Item	Part Number
1.	LAPTOP COMPUTER - Must have *Windows* 98, *Windows* 2000 or *Windows* NT.	
2.	SERIAL CABLE - Use to connect LAPTOP COMPUTER to MIM SERIAL PORT	TL-5224
3.	10bT/100bT *Ethernet* BOARD - Installed in LAPTOP COMPUTER	78-9998-2934-0
4.	NETWORK CROSSOVER CABLE	96-0000-3918-8
5.	10 baseT CABLE	96-9998-2936-5
6.	*Ethernet* HUB: 10bT/100bT	78-9998-2935-7
7.	MONITOR KIT - A MONITOR, KEYBOARD and MOUSE	8E2480
8.	ADAPTER - Used to connect MONITOR CABLE to the MIM 200, 667 MHz version.	3H9543
9.	Y CABLE - Used to connect KEYBOARD and MOUSE of MONITOR KIT to 25 PS or MIM 100.	8E2284, TL-5371
10.	EXTERNAL CD ROM DRIVE - Used to upgrade new software for MIM 100.	TL-5651
11.	EXTENDER POWER CONNECTOR - Used with EXTERNAL CD ROM DRIVE for MIM 100.	TL-5652
12.	RIBBON CABLE - Used with EXTERNAL CD ROM DRIVE for MIM 100.	5E2908
13.	TELEPHONE CORD	None

LAPTOP COMPUTER

This primary service tool includes *Windows* 98, *Windows* 2000 or *Windows* NT SOFTWARE, an *Ethernet* BOARD, and a MODEM. The LAPTOP COMPUTER can connect to the MIM with a SERIAL CABLE, a MODEM or a local area network. It is used to run the "MIM Service Application," which is used to configure the MIM, run diagnostics, view the logs, and do other functions.

MONITOR KIT

The MONITOR, KEYBOARD, and MOUSE in this KIT connect to the MIM, and can directly access the *Windows* 2000 DESKTOP and the MIM files, including the logs. The MONITOR KIT is used to configure the MIM BIOS and to diagnose MIM database or hardware/*Windows* 2000 problems that the "MIM Service Application" cannot diagnose. Because the "MIM Service Application" is stored in the MIM as well as on the LAPTOP COMPUTER, the Service Application can be accessed directly in the MIM with the MONITOR KIT.

Software Tools

For MIM service, the following software tools must be installed on your LAPTOP COMPUTER.

	Item	Part Number
1.	"Service LAPTOP Software for MIM-Based Products"	7E6051
2.	"MIM Service Application" Software, V_6.1 - installed on LAPTOP COMPUTER Includes SecureLink V_1.1 Software Part Number 8E9820	8E9823
3.	*pcAnywhere* REMOTE CONTROL SOFTWARE - installed on LAPTOP COMPUTER and on MIM	78-9998-2937-3
4.	"SecureLink V_1.0 Client" CD	8E8814
5.	FLOPPY BIOS FLASH DISK 2.0	7F3185

Setting Up the LAPTOP COMPUTER

Setup Tasks

To prepare your laptop computer for MIM service, you must do the software installation and setup tasks listed in the following table on your LAPTOP COMPUTER.

Normally you will do these procedures during training or they will be part of the TCO or Field LAPTOP COMPUTER image. You will not have to repeat them unless you change the operating system on your COMPUTER or new MIM-related software is released.

Table 2–1 LAPTOP COMPUTER Setup Tasks

	Task	Procedure For LAPTOP COMPUTER with *Windows* 98	Procedure For LAPTOP COMPUTER with *Windows* 2000	Procedure For LAPTOP COMPUTER with *Windows* NT
1	Install Service LAPTOP Software for MIM-Based Products	Page 2–3	Page 2–3	Page 2–3
2	Install TCP/IP	Page 2–9	Page 2–15	Page 2–17
3	Configuring Direct Cable Connection - for LAPTOP COMPUTERS with *Windows* 98	Page 2–9	Not applicable	Not applicable
4	Install Dial-Up Networking	Page 2–10	Not applicable	Page 2–17
5	Install “Serial Cable to NT” and Set Up the SERIAL PORT	Page 2–11	Not applicable	Not applicable
6	Install “Communications cable between two computers” and Set Up the SERIAL PORT.	Not applicable	Page 2–15	Page 2–17
7	Create a “Dial-Up Networking” Icon for the SERIAL PORT	Page 2–12	Page 2–16	Page 2–18
8	Create “Dial-Up Networking” Icons for MODEM Connections	Page 2–13	Page 2–16	Page 2–18
9	Install “SecureLink” Client software	See SecureLink documentation on Service Apps CD.		
10	Request and Install a Digital Certificate for “SecureLink”	See SecureLink documentation on Service Apps CD.		
11	Install latest MIM Service Application Software	Page 2–20	Page 2–20	Page 2–20
12	Install *pcAnywhere*	Page 2–21	Page 2–21	Page 2–21
13	Create a Remote Connection Item for *pcAnywhere*	Page 2–21	Page 2–21	Page 2–21

Note

LAPTOP COMPUTERS with an official Kodak image will have items 1, 2 and 4 through 7 completed. Steps 9 through 11 will not be part of the image until after August 2003.

Installing the “Service LAPTOP COMPUTER Software for MIM-Based Products”

This procedure applies to LAPTOP COMPUTERS with *Windows* 98, *Windows* 2000 or *Windows* NT.

For this procedure you will need the CD 7E6051. The table on Page 2–4 lists the software components on this CD that you will install.

To install this CD, do the procedure that starts after the table on Page 2–4.

Important

See the table on Page 2–4 for the correct order for installing the software

Table 2–2 Loading the Service Laptop Software for MIM-Based Products on the LAPTOP COMPUTER

Step	Description	Folder Containing the SOFTWARE on CD	Notes
1	Insert CD into CD-ROM DRIVE	-	--
2	Install LAPTOP COMPUTER BASIC SOFTWARE V_2.0	LapBasic	DAO V_3.00 files, Data Link Library (DLL) Files, and MODEM Files
3	Install DATA ACCESS OBJECTS (DAO) FILES V_3.0	Part of Laptop Basic Software V_2.0	See above.
4	Install SERVICE SOFTWARE V_A1.8	S_sw_a18	MODALITY Database, Help Files
5	Install LAPTOP COMPUTER BASIC SOFTWARE V_3.0	Laptop30	DAO V_3.5 files.
6	Install SERVICE SOFTWARE V_2.1	S_sw_2_1	MODALITY Database, Help Files
7	Install LAPTOP COMPUTER BASIC SOFTWARE V_3.5	Laptop35	
8	Install SERVICE SOFTWARE V_3.0	S_sw_3_0	MODALITY Database, Help Files
9	Install SERVICE SOFTWARE V_3.1	S_sw_3_1	
10	Install LAPTOP COMPUTER BASIC SOFTWARE V_3.6	mim laptop basic 3.6	
11	Install SERVICE SOFTWARE V_3.2	mimservice3.2	
12	Install SERVICE SOFTWARE V_3.2.1	mimservice3.2.1	
13	Install KEYPAD FIRMWARE UPDATE V_1.0.4	Key_104	
14	Install KEYPAD FIRMWARE UPDATE V_1.0.5	Key_105	
15	Install KEYPAD DIRMWARE UPDATE V_1.0.7	Key_107	
16	Install MIM DIGITAL FIRMWARE V_2.2	Mim_Dig	
17	MIM 100 APPLICATION SOFTWARE V_6.0	Mim_100	
18	MIM 100 APPLICATION SOFTWARE V_6.1	Mim_100	
19	Install VIDEO 150 BOARD FIRMWARE V_1.3	V150_1_3	

Installation Procedure:

[1] Insert the CD into the LAPTOP COMPUTER.

The contents of the CD displays automatically.

[2] Install the LAPTOP COMPUTER BASIC SOFTWARE V_2.0 on the LAPTOP COMPUTER:

(a) Double-click [Laptop Basic].

(b) Double-click [Setup].

(c) Click [Next] in each of the 4 screens that display.

(d) Click [Finish].

Important

In Step [3] (i), if the LAPTOP COMPUTER displays the message "Missing DLL," click [OK] to complete the installation. This message does **not** indicate a malfunction.

[3] Install the DATA ACCESS OBJECTS (DAO) FILES V_3.0:

(a) Select **Start>Settings>Control Panel**.

(b) Open "Add/Remove Programs."

(c) Click:

- [Install]
- [Next]
- [Browse]

(d) At the "C:\" prompt, double-click the [C:\] prompt and then open the folder "Program Files."

(e) Open:

1. "KHID"
2. "DAO"

(f) Double-click [Setup.exe].

(g) Check that the "Run Installation Program" window displays "C:\Program Files\KHID\DAO\Setup.exe."

(h) Click:

- [Finish]
- [Next]

(i) At the message "DAO Setup Complete," click [OK].

(j) To check your work, select **Start>Settings>Control Panel>Add/Remove Program**.

Note

The screen displays "Data Access Objects (DAO) 3.0" if the software is correctly installed.

[4] Install the SERVICE SOFTWARE V_A1.8:

(a) Double-click [S_sw_a1.8].

(b) Double-click [Setup].

(c) Click [Yes].

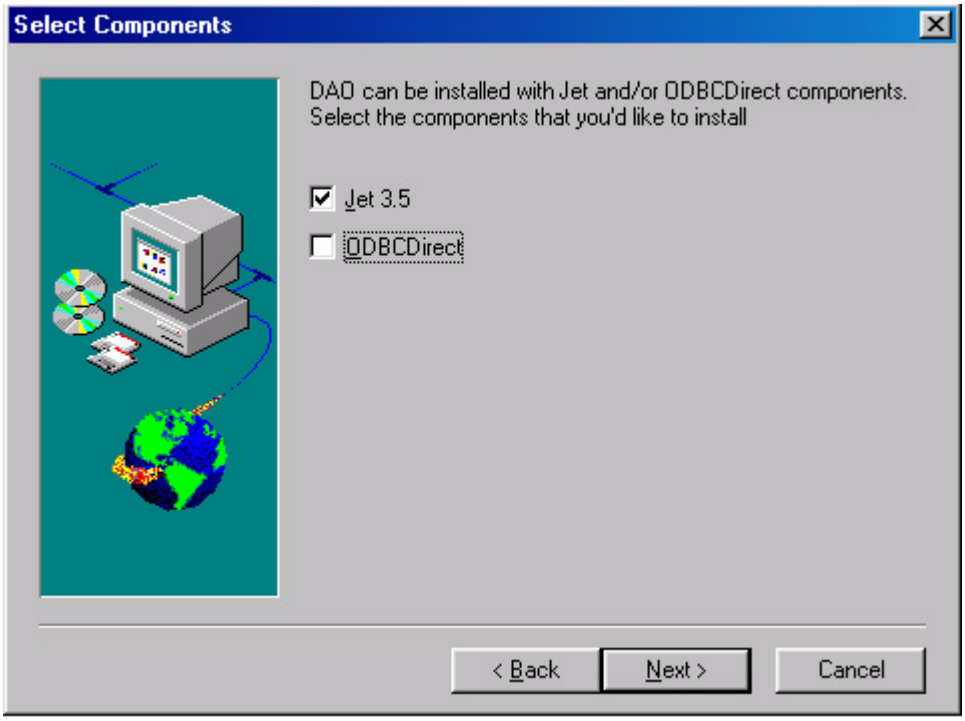
(d) Click [Finish].

[5] Install the LAPTOP COMPUTER BASIC SOFTWARE V_3.0 on the LAPTOP COMPUTER:

(a) Double-click [Laptop30].

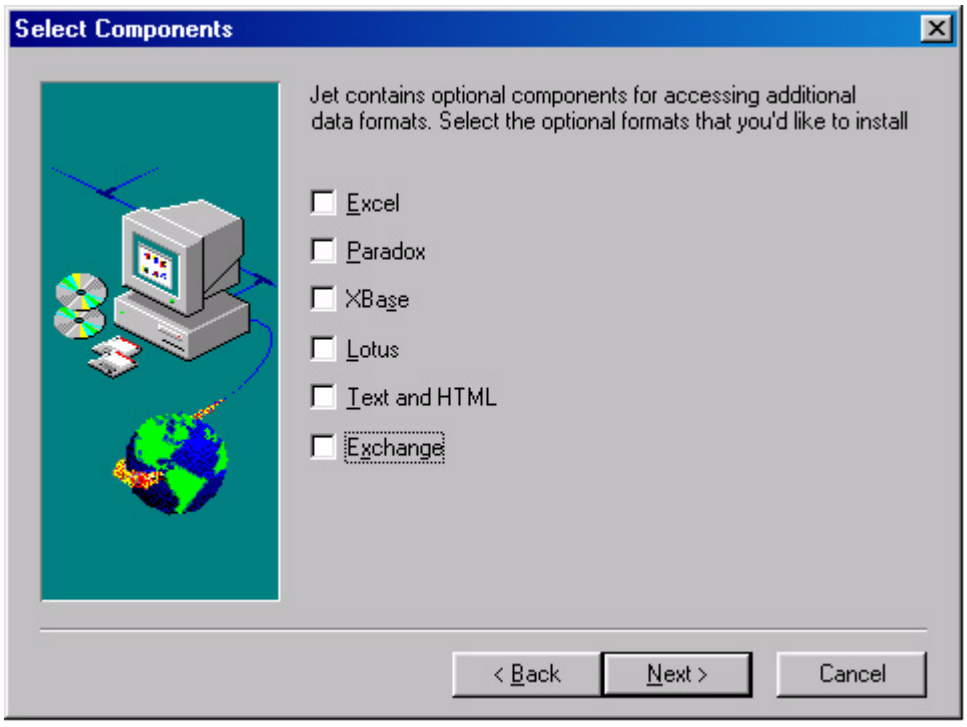
(b) Double-click [Setup].

(c) Click [Next].



(d) Select **Jet 3.5**.

(e) Click [Next].



Important

In Step f, all boxes must be unchecked.

(f) Check that all boxes are unchecked.

(g) Click [Next].

(h) Click [OK].

[6] Install the SERVICE SOFTWARE V_2.1:

(a) Double-click [S_sw_2.1].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

Important

Depending on what software is on the LAPTOP COMPUTER, you might have to click [Yes] 1 or more times in Step [7] (d).

[7] Install the LAPTOP COMPUTER BASIC SOFTWARE V_3.5:

(a) Double-click [Laptop35].

(b) Double-click [Setup].

(c) Click [Next].

(d) Click [Yes] each time the screen asks if you want to overwrite an existing file.

(e) Click [Finish].

[8] Install the SERVICE SOFTWARE V_3.0:

(a) Double-click [S_sw_3_0].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[9] Install the SERVICE SOFTWARE V_3.1:

(a) Double-click [S_sw_3_1].

(b) Double-click Setup].

(c) Click [Yes].

(d) Click [Finish].

[10] Install the LAPTOP COMPUTER BASIC SOFTWARE V_3.6:

(a) Double-click [MIM Laptop Basic 3.6].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[11] Install the SERVICE SOFTWARE V_3.2:

(a) Double-click [MIM Service 3.2].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[12] Install the SERVICE SOFTWARE V_3.2.1:

(a) Double-click [MIM Service 3.2.1].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[13] Install the KEYPAD FIRMWARE UPDATE V_1.04:

(a) Double-click [key_10].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[14] Install the KEYPAD FIRMWARE UPDATE V_1.05:

(a) Double-click [key_105].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[15] Install the KEYPAD FIRMWARE UPDATE V_1.07:

(a) Double-click [key_107].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[16] Install the DIGITAL FIRMWARE V_2.2:

(a) Double-click [Mim_Dig].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[17] Install the MIM 100 APPLICATION SOFTWARE V_6.1:

(a) Double-click [Mim_100].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[18] Install the VIDEO 150 BOARD FIRMWARE V_1.3:

(a) Double-click [V150_1_3].

(b) Double-click [Setup].

(c) Click [Yes].

(d) Click [Finish].

[19] Remove the CD from the LAPTOP COMPUTER.

[20] What operating system is on your LAPTOP COMPUTER?

***Windows* 98**	***Windows* 2000**	***Windows* NT**
Continue with "Installing TCP/IP - Windows 98" on Page 2–9	Advance to "Installing TCP/IP - Windows 2000" on Page 2–15	"Installing TCP/IP - Windows NT" on Page 2–17

Installation and Setup Procedures for LAPTOP COMPUTERS with *Windows* 98

Installing TCP/IP - *Windows* 98

[1] On the LAPTOP COMPUTER, select **Start>Control Panel**.

[2] Open **Network**.

[3] Check the "network components installed" list in the "Configuration" window:

- If TCP/IP is installed, check that "Client for Microsoft Networks" is selected in the "Primary Network Logon" window. Advance to the procedure "Configuring Direct Cable Connection - for LAPTOP COMPUTERS with Windows 98" on Page 2–9.
- If TCP/IP is **not** installed, advance to Step 4.

[4] Click [Add].

[5] At the "Select Network Component Type" window, select **Protocol**.

[6] Click [Add].

[7] At the "Select Network Protocol" window, select:

- Manufacturer: *Microsoft*
- Network Protocol: TCP/IP

[8] Click [OK].

[9] At the "Select Device" window, click [OK].

[10] At the restart prompt, click [Yes].

[11] Continue with the next procedure.

Configuring Direct Cable Connection - for LAPTOP COMPUTERS with *Windows* 98

[1] Right-click "My Computer".

[2] Select "Properties"

[3] Select **Device Manager>Modem>Serial Cable on COM1**.

[4] Select "Properties" for "COM1".

[5] Select "Modem".

[6] Set "maximum speed" to **115200** and select [OK].

[7] Select **Device Manager>Ports>COM1**.

[8] Select "Properties" for "COM1".

[9] Select "Port Settings".

[10] Set "Bits/second" to **115200**.

[11] Set "Flow Control" to "none".

[12] Select [OK] twice to escape.

[13] Shut down the LAPTOP COMPUTER.

Note

You must select a full "Shut down", not "Restart".

[14] Continue with the next procedure.

Installing Dial-Up Networking - *Windows* 98

Note

TCP/IP must be installed in "Dial-Up Networking" for communication between the LAPTOP COMPUTER and the MIM.

[1] At the TASKBAR, select **Start>Programs>Accessories>Communications**.

[2] Check the "Communications" folder for *Windows* 98:

- If "Dial-Up Networking" is **not** installed, advance to Step 3.
- If "Dial-Up Networking" is installed, advance to "Installing "Serial Cable to NT" and Setting Up the SERIAL PORT - Windows 98" on Page 2–11.

[3] If "Control Panel" is **not** open, select **Start>Control Panel**.

[4] Select **Add>Remove Programs**.

[5] Select ***Windows* Setup>Communications.**

[6] Check that **Communications** has a checkmark next to it.

[7] Click [Details].

Important

In the next step, the field for "Dial-Up Networking" **must** be checked.

[8] Check that the field for the "Dial-Up Networking" is selected, click [OK].

[9] Click [OK].

[10] Follow the directions the screen displays for restarting the LAPTOP COMPUTER.

[11] Continue with the next procedure.

Installing "Serial Cable to NT" and Setting Up the SERIAL PORT - *Windows* 98

[1] Open **Modems** in the "Control Panel" Window.

[2] At the "Modems Properties" window under "General," click [Add].

[3] Select "Other" and click [Next].

[4] Check "Don't Detect my Modem" and click [Next].

[5] Click:

- [Have Disk]
- [Browse]

Important

In the following step, you might have to change the directory level from "C:\Windows" to the directory indicated.

[6] At the "Open" window, select **C:\ProgamFiles\KHID\Modem**.

[7] At the "Open" window, Select "mdhayes.inf" and click [OK] twice.

[8] Select the 2nd listing for manufacturer: "Generic Modem Drivers" and "Serial Cable to *Windows* NT."

[9] Click [Next].

[10] Select "Communications Port (COM 1)" for the 9-Pin SERIAL PORT of the LAPTOP COMPUTER.

[11] Click [Next].

[12] When the LAPTOP COMPUTER displays the message "Your modem has been set up successfully," click:

- [Finish]
- [Close]

[13] Close the "Control Panel."

[14] Continue with the next procedure.

Creating a "Dial-Up Networking" Icon for the SERIAL PORT - *Windows* 98

[1] At the TASKBAR, select **Start>Programs>Accessories>Communications>Dial-Up Networking**.

[2] At the "Dial-Up Networking" window, double-click [Make New Connection].

[3] At the "Make a New Connection" window, type: **Connect to MIM products** or some other title you choose.

[4] At the "Select a Device" menu for , click [Serial Cable to *Windows* NT].

[5] Click [Configure].

[6] Check that the settings are correct in each of the following tabs:

- **General**:
  - Communication Port (COM1)
  - Max Speed = 115,200 baud
- **Connection**:
  - Data bits = 8
  - Parity = None
  - Stop bits = 1
- **Option**s: Display modem status

[7] Click:

- [Connection]
- [Advanced]

[8] Check both "Use Flow Control" and "Hardware (RTS/CTS)".

[9] Click:

- [OK] twice
- [Next]

Important

- You must enter a telephone number **before** you can exit the "Make New Connection" window.
- The Dial-Up Networking "Connect to" window does **not** use this telephone number.
- Use "Tab" to advance to the next field in the menu.

[10] Type:

- **111** for the area code
- Type: **111-1111** for the telephone number

[11] Click:

- [Next]
- [Finish]

[12] Make a shortcut for "Connect to" (see the title assigned in Step 3.):

(a) Right-click the MOUSE to select "Connect to."

(b) Click [Create Shortcut].

(c) Click [Yes] to place the shortcut on the desktop

[13] Close the "Dial-Up Networking" window.

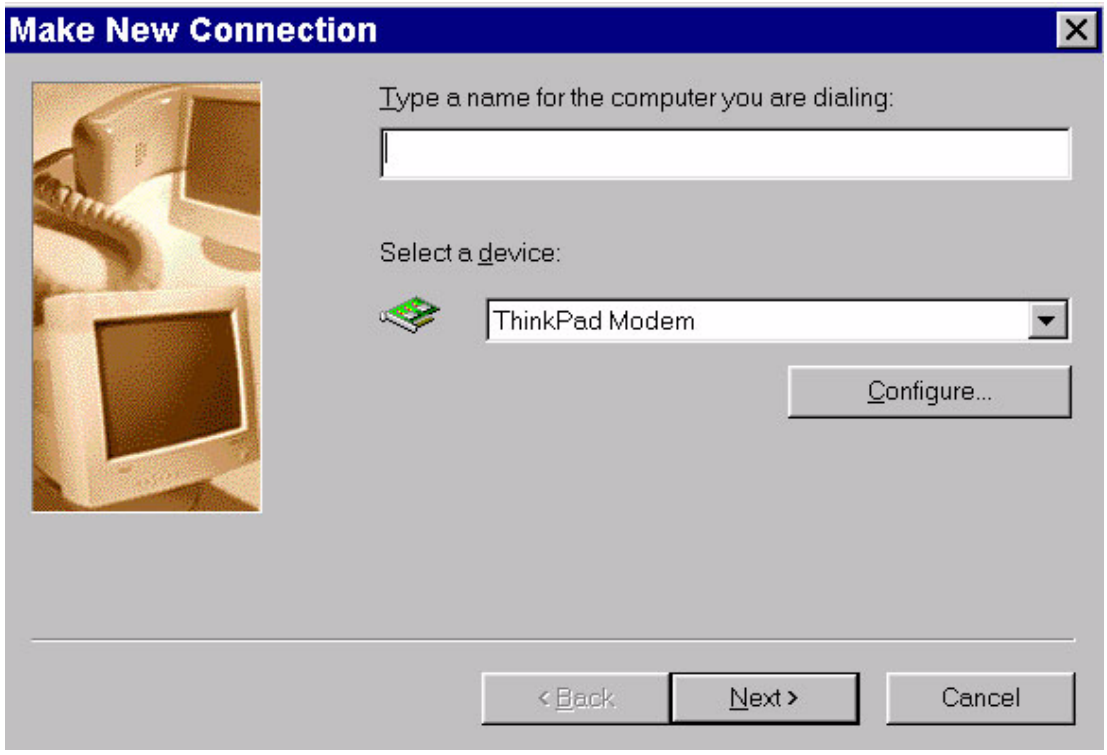
[14] Continue with the next procedure.

Creating Dial-Up Networking Icons for MODEM Connections - *Windows* 98

You should create a dial-up networking icon for each of the MIMs that you expect to access with a dial-up telephone connection. The following procedure sets up one dial-up modem connection. Repeat this procedure for each MIM that has a MODEM.

[1] At the TASKBAR, select **Start>Programs>Accessories>Communications>Dial-Up Networking**.

[2] In the "Dial-Up Networking" window, double-click [Make New Connection].



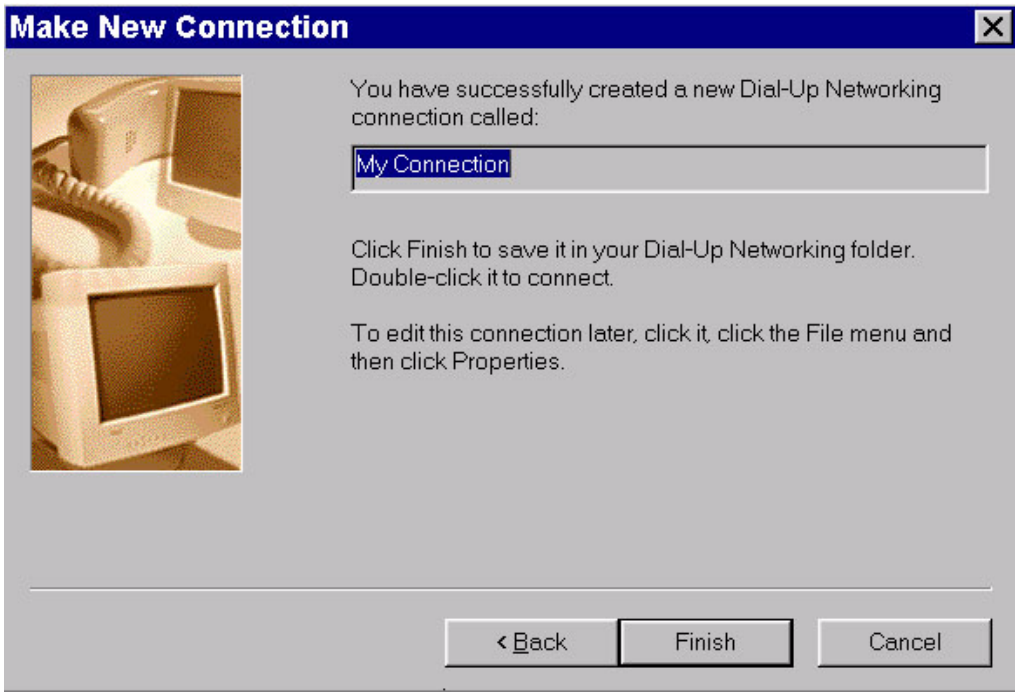
[3] Enter a name for the MIM or RAS Server to which you want to connect.

[4] Click [Configure] and accept the default values for the MODEM configuration.

[5] Click [Next].

[6] Enter the telephone number of the target MIM or RAS Server.

[7] Click [Next].


Make New Connection
You have successfully created a new Dial-Up Networking connection called:
My Connection
Click Finish to save it in your Dial-Up Networking folder. Double-click it to connect.
To edit this connection later, click it, click the File menu and then click Properties.
< Back
Finish
Cancel

[8] Click [Finish].

An icon with the name of the connection you entered in Step 3 will now appear in your Dial-Up Networking folder. You can connect to the target MIM by double-clicking on the icon.

Repeat this procedure for each of the MIMs you expect to access through a MODEM. You can add icons for additional MODEM connections later.

[9] When you are done creating dial-up icons, advance to "Installing "SecureLink" Client Software" on Page 2–19.

Installation and Setup Procedures for LAPTOP COMPUTERS with *Windows* 2000

Installing TCP/IP - *Windows* 2000

[1] On the LAPTOP COMPUTER, select **Start>Settings>Control Panel>Network and Dial-up Connections>Local Area Connection**.

[2] Click [Properties].

[3] Scroll to "Internet Protocol (TCP/IP)".

[4] Is "Internet Protocol (TCP/IP)" checked?

No	Yes
Continue with Step 5.	Advance to "Installing "Communications cable between two computers" and Setting Up the SERIAL PORT - for Windows 2000" on Page 2–15

[5] Click [Install].

[6] Select "Client".

[7] Click [Add].

[8] Follow the instructions to install TCP/IP.

[9] Continue with the next procedure.

Installing "Communications cable between two computers" and Setting Up the SERIAL PORT - for *Windows* 2000

[1] From the task bar: **Start>Settings>Control Panel>Phone and Modem Options**.

[2] Select the "Modem" tab.

[3] Click [Add].

[4] Check "Don't Detect my modem; I will select it from list".

[5] Click [Next].

[6] From the list, select "Communications cable between two computers".

[7] Click [Next].

[8] Select "Selected ports".

[9] Select "COM1".

[10] Click [Next].

[11] Click [Finish].

[12] Select "Communications cable between two computers".

[13] Click [Properties].

[14] Set "Maximum Port Speed" to "115200".

[15] Click [OK].

[16] Click [OK] again to close the "Phone and Modem Options" window.

[17] Continue with the next procedure.

Creating a "Dial-Up Networking" Icon for the SERIAL PORT - *Windows* 2000

[1] At the TASKBAR, select **Start>Programs>Accessories>Communications>Network and Dial-Up Communications.**

[2] Click [Make New Connection].

The Network Connection Wizard starts.

[3] Click [Next].

[4] Select "Connect directly to another computer" and click [Next].

[5] Select "Guest" and click [Next].

[6] Select "Communications cable between two computers (COM1)" and click [Next].

[7] Select "Only for myself" and click [Next].

[8] Enter the name **Connect to MIM products** or some other title you choose.

[9] Click [Finish].

An icon now appears in the "Networking and Dial-Up Connections" window with the name you entered.

[10] Make a desktop shortcut for connection you just created.

(a) Right-click the MOUSE on the icon you just created.

(b) Click [Create Shortcut].

(c) Click [Yes] to place the shortcut on the desktop.

[11] Close the "Networking and Dial-up Connections" window.

[12] Continue with the next procedure.

Creating "Dial-Up Networking" Icons for MODEM Connections - *Windows* 2000

You should create a dial-up networking icon for each of the MIMs that you expect to access with a dial-up telephone connection. The following procedure sets up one dial-up modem connection. Repeat this procedure for each MIM that has a MODEM.

[1] At the TASKBAR, select **Start>Programs>Accessories>Communications>Network and Dial-Up Communications.**

[2] Click [Make New Connection].

The Network Connection Wizard starts.

[3] Click [Next].

[4] Select "Dial-up to private network" and click [Next].

[5] Select "Guest" and click [Next].

[6] Select the modem you have installed in your LAPTOP COMPUTER and click [Next].

Note

If there is only one dial-up device in your LAPTOP COMUTER, this step may not appear.

[7] Enter the telephone number of the target MIM or RAS Server.

[8] Select "Only for myself" and click [Next].

[9] Enter a name for this connection.

[10] Click [Finish].

An icon now appears in the "Networking and Dial-Up Connections" window with the name you entered.

[11] Close the "Networking and Dial-up Connections" window.

An icon with the name of the connection you entered in Step 9 will now appear in your Dial-Up Networking folder. You can connect to the target MIM by double-clicking on the icon.

Repeat this procedure for each of the MIMs you expect to access through a MODEM. You can create additional icons for MODEM connections later.

[12] When you are done creating dial-up icons, continue with "Installing "SecureLink" Client Software" on Page 2–19.

Installation and Setup Procedures for LAPTOP COMPUTERS with *Windows* NT

Installing TCP/IP - *Windows* NT

[1] On the LAPTOP COMPUTER, select **Start>Settings>Control Panel>Network and Dial-up Connections>Local Area Connection**.

[2] Click [Properties].

[3] Scroll to "Internet Protocol (TCP/IP)".

[4] Is "Internet Protocol (TCP/IP)" checked?

No	Yes
Continue with Step 5.	Advance to "Installing Dial-Up Networking - Windows NT" on Page 2–17

[5] Click [Install].

[6] Select "Client".

[7] Click [Add].

[8] Follow the instructions to install TCP/IP.

[9] Continue with the next procedure.

Installing Dial-Up Networking - *Windows* NT

[1] At the TASKBAR, select **Start>Programs>Accessories>Dial-Up Networking**.

[2] Click [Install].

[3] Continue with the next procedure.

Installing "Dial-Up Networking cable between two PCs" and Setting Up the SERIAL PORT - for *Windows* NT

[1] From the task bar: **Start>Settings>Control Panel**

[2] Open the "Modem" icon.

[3] Click [Add].

[4] Check "Don't Detect my modem; I will select it from list".

[5] Click [Next].

[6] From the list, select "Dial-Up Networking Cable between 2 PCs".

[7] Click [Next].

[8] Select "Selected ports".

[9] Select "COM1".

[10] Click [Next].

[11] Click [Finish].

[12] Select "Dial-Up Networking Cable between 2 PCs".

[13] Click [Properties].

[14] Set "Maximum Port Speed" to "115200".

[15] Click [OK].

[16] Click [Close] to close the "Modems Properties" window.

[17] Continue with the next procedure.

Creating a "Dial-Up Networking" Icon for the SERIAL PORT - *Windows* NT

[1] On the desktop, open "My Computer" and then open "Dial-Up Networking".

[2] Select [New].

The Network Connection Wizard starts.

[3] In the "New Phone Book Entry" window:

- Enter the name **Connect to MIM Products** or some other name you select.
- Select "Dial-Up Networking Serial Cable Between 2 PCs."

[4] Click [Next].

[5] At the "Server" window, select "Send my plain text password if that's the only way to connect."

[6] Click [Next].

[7] At the "Phone Number" window, click [Next].

[8] Click [Finish].

Your entry now appears in the "Networking and Dial-Up Connections" window with the name you entered.

[9] Close the "Networking and Dial-up Connections" window.

[10] Make a desktop shortcut for connection you just created.

(a) Right-click the MOUSE on the icon you just created.

(b) Click [Create Shortcut].

(c) Click [Yes] to place the shortcut on the desktop.

[11] Continue with the next procedure.

Creating "Dial-Up Networking" Entries for MODEM Connections - *Windows* NT

You should create a dial-up networking entry for each of the MIMs that you expect to access with a dial-up telephone connection. The following procedure sets up one dial-up modem connection.

[1] On the desktop, open "My Computer" and then open "Dial-Up Networking."

[2] Select [New].

The Network Connection Wizard starts.

[3] In the "New Phone Book Entry" window:

- Enter a name for this connection.
- Select the MODEM that is installed in your LAPTOP COMPUTER.

[4] Click [Next].

[5] At the "Server" window, select "Send my plain text password if that's the only way to connect."

[6] Click [Next].

[7] At the "Phone Number" window, enter the telephone number for the target MIM and click [Next].

[8] Click [Finish].

Your entry now appears in a pull-down list of dial-up connection entries.

[9] Close the "Networking and Dial-up Connections" window.

Repeat this procedure for each of the MIMs you expect to access through a MODEM. You can create additional entries for MODEM connections later.

When you are done creating dial-up entries, continue with "Installing "SecureLink" Client Software" on Page 2–19.

Installing “SecureLink” Client Software

For information about installing the *SecureLink* software, see the *SecureLink* documentation on the Service Apps CD.

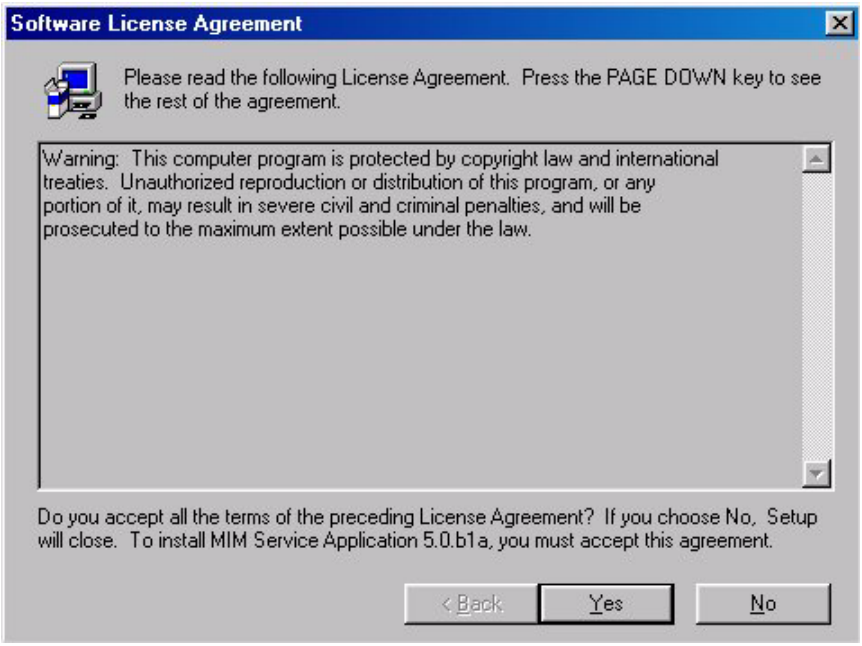
Installing the MIM Service Application on your LAPTOP COMPUTER

[1] Energize the LAPTOP COMPUTER.

[2] Insert the CD-ROM for the "MIM Service Application" software into the LAPTOP COMPUTER.

Note

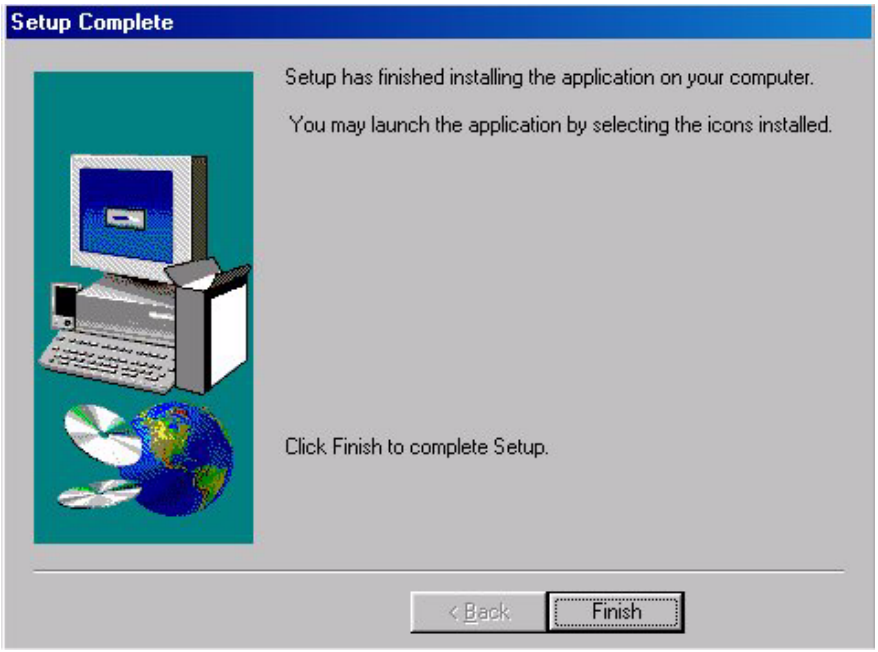
The name and level of the Service Application and the Software License Agreement will display.


Software License Agreement
Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement.
Warning: This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install MIM Service Application 5.0.b1a, you must accept this agreement.
< Back
Yes
No

[3] Read the Licensing Agreement and click [Yes]. The software will begin loading.

[4] When the icon displays, click:

- [File]
- [Close]


Setup Complete
Setup has finished installing the application on your computer.
You may launch the application by selecting the icons installed.
Click Finish to complete Setup.
< Back
Finish

[5] When the "Setup Complete" screen displays, click [Finish]. The new MIM Service Application version will now display on the **Start>Programs** list of the LAPTOP COMPUTER.

[6] Advance to "Installing pcAnywhere REMOTE CONTROL SOFTWARE" on Page 2–21.

Installing *pcAnywhere* REMOTE CONTROL SOFTWARE

pcAnywhere software and installation instructions are provided on CD-ROM.

[1] Insert the CD into your LAPTOP COMPUTER.

[2] Follow the installation instructions included in the package.

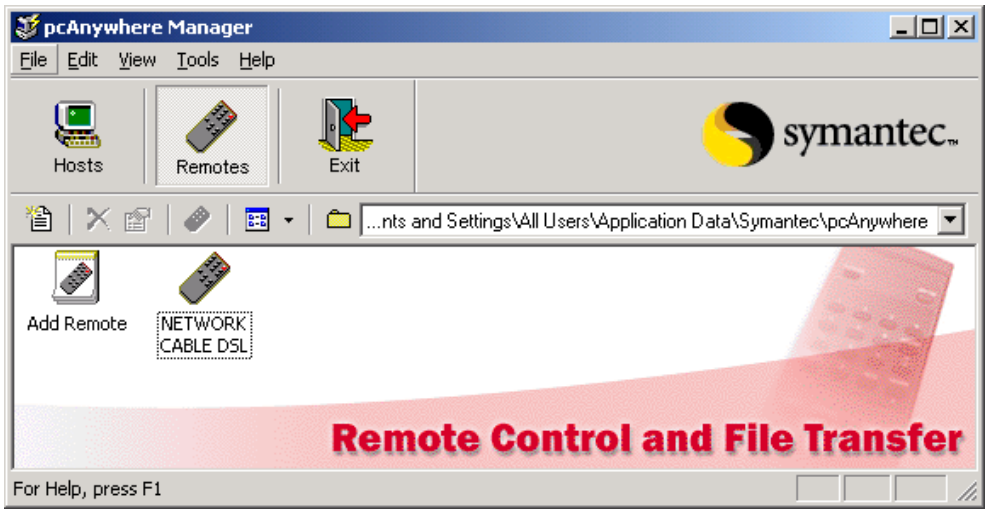
When installed, *pcAnywhere* will appear in the *Windows* programs list as "Symantec pcAnywhere."

[3] Continue with the next procedure.

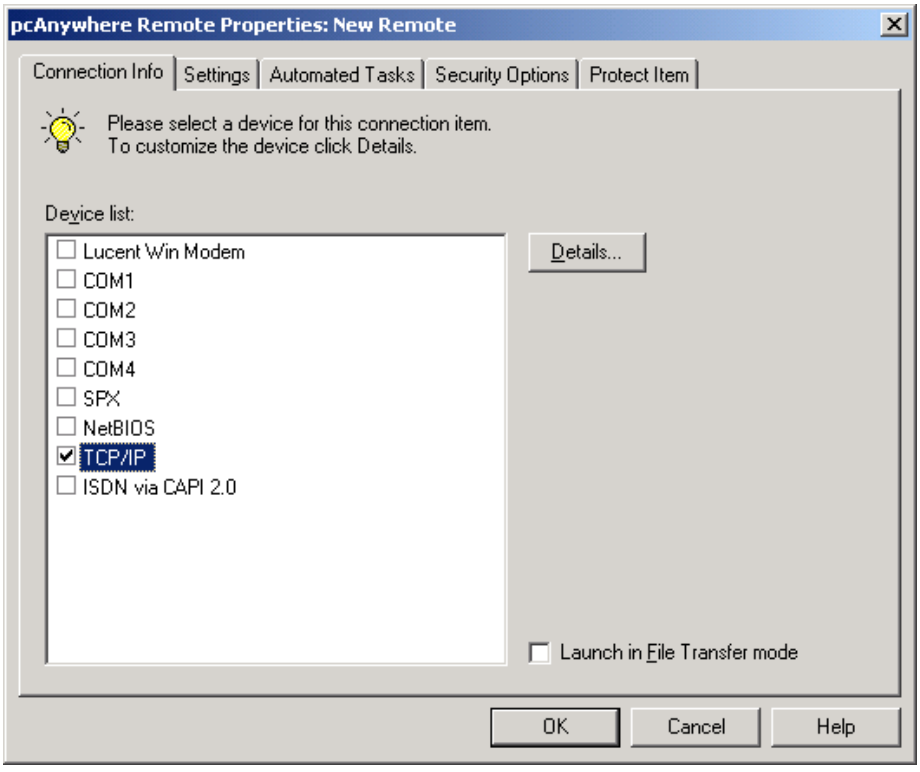
Creating a Remote Connection Item for *pcAnywhere*

A *pcAnywhere* remote connection item is a file of the information needed to make a *pcAnywhere* connection from your LAPTOP COMPUTER to a target MIM. The remote connection item appears as an icon in the *pcAnywhere* Manager window on your LAPTOP COMPUTER.

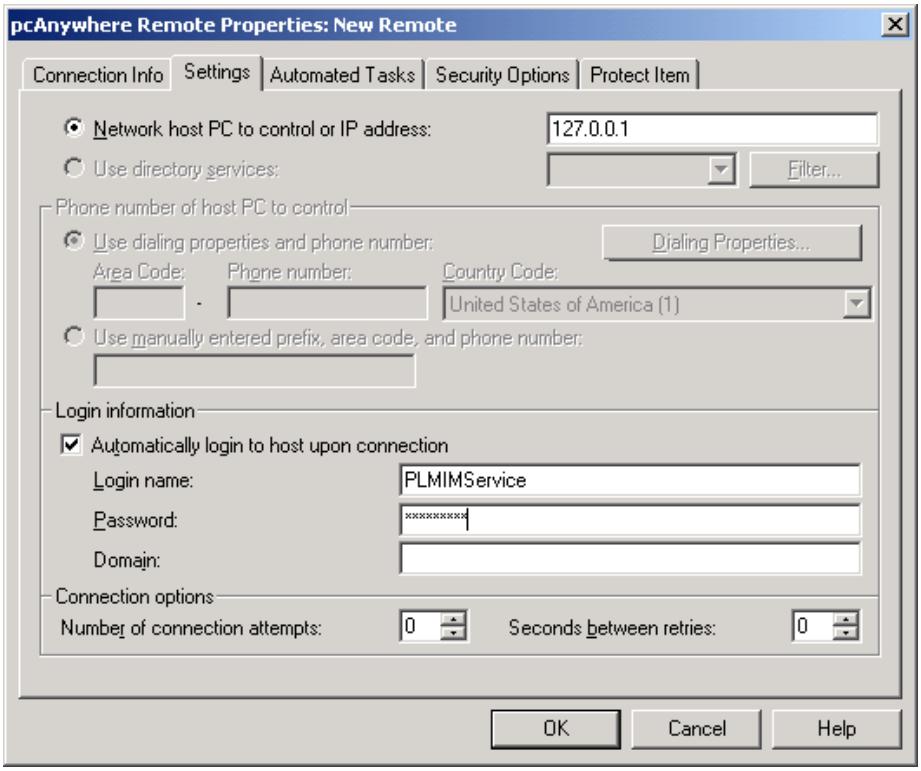
[1] From the task bar: Select **Start>Programs>Symantec *pcAnywhere***



[2] Click "Add Remote."



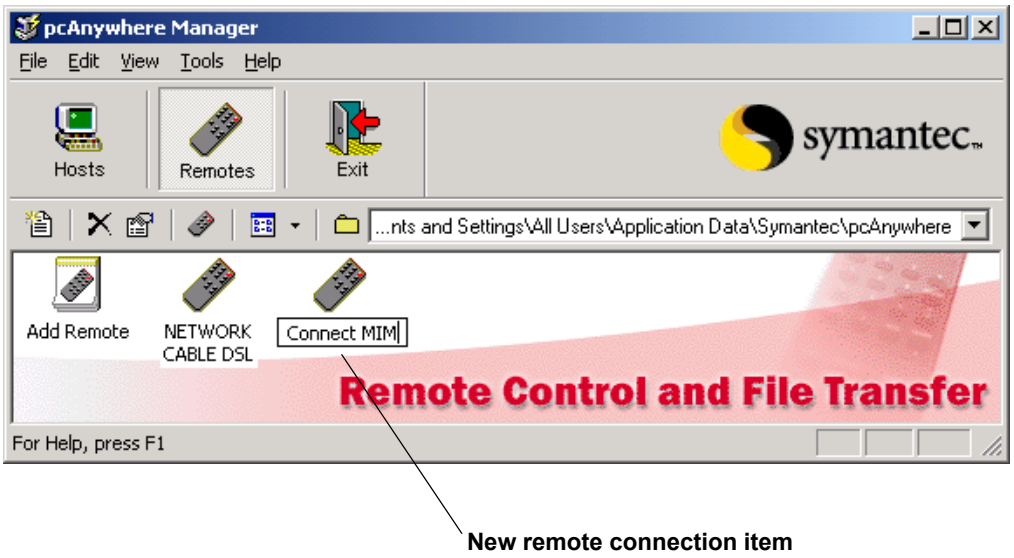
[3] On the “Connect Info” select “TCP\IP.”



[4] On the “Settings” tab, enter:

- IP Address: **127.0.0.1**
- Login name: **PLMIMService**
- Password: **NetServer**

[5] Click [OK]



[6] Change the name of the new remote connection item to “Connect MIM 6.1.”

[7] Close the *pcAnywhere* Manager window.

This completes Installation and setup of software on your LAPTOP COMPUTER.

Connecting Your LAPTOP COMPUTER to a MIM

There are several methods of connecting your LAPTOP COMPUTER to a MIM.

Connection Methods

Method	Page number
Connecting to MIM using a SERIAL CABLE - for LAPTOP COMPUTERS with *Windows* 98.	Page 2–25
Connecting to MIM using a SERIAL CABLE - for LAPTOP COMPUTERS with *Windows* 2000 or *Windows* NT.	Page 2–27
Connecting to a MIM using a MODEM connection	Page 2–28
Connecting to a MIM with a network connection	Page 2–29
Connecting to a MIM with a NETWORK CROSSOVER CABLE	Page 2–30
VPN (Virtual Private Network) Internet connection	Page 2–30

Note

Before you can connect your LAPTOP COMPUTER to a MIM by any of the above methods, you must complete the LAPTOP COMPUTER setup tasks listed on Page 2–3.

Important

For all of these connection methods, you must know the IP Address of the MIM you wish to access.

The IP Address of the MIM is recorded in:

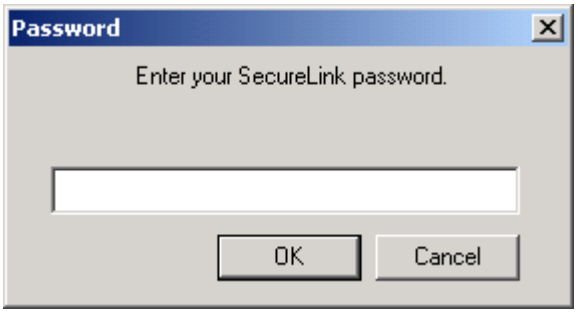
- A pouch on the side of the MIM.
- The “View Service Information” screen of the KEYPAD. Select **Service Menu>Configuration Menu> Network Setup>IP Address**.
- For V_6.0 and above, the IP Address for a newly ghosted MIM 100, MIM 200 or PS 25 is 123.123.123.10
- The default RAS Pool IP Address is 123.123.123.200

Starting and Using “SecureLink”

As a part of each of the MIM connection methods, you must use “SecureLink” to authenticate the connection. The general procedure for connecting to a MIM from your LAPTOP COMPUTER with “SecureLink” is:

[1] Connect to the MIM with any of the connection methods listed in “Connection Methods” on Page 2–23.

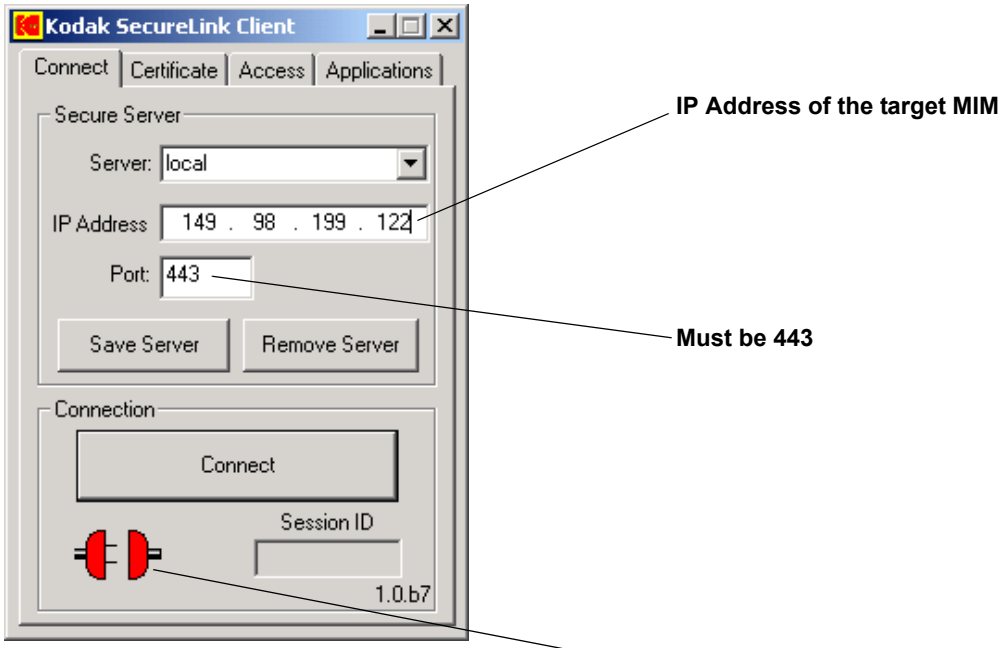
[2] Start the “SecureLink” client application: **Start**>**Programs**>**Kodak**>**SecureLink**.



[3] Enter your “SecureLink” Password.

Note

You created this password when you requested your “SecureLink” digital certificate.



Before you connect

[4] Enter the IP Address of the target MIM.

Important

If the *Ethernet* cable at the MIM is disconnected or if an IP Address conflict exists, *Windows* 2000 disables the *Ethernet* port on the MIM. “SecureLink” will then only connect using a serial cable and the RAS Pool IP Address.

[5] Verify that the Port value is 443.

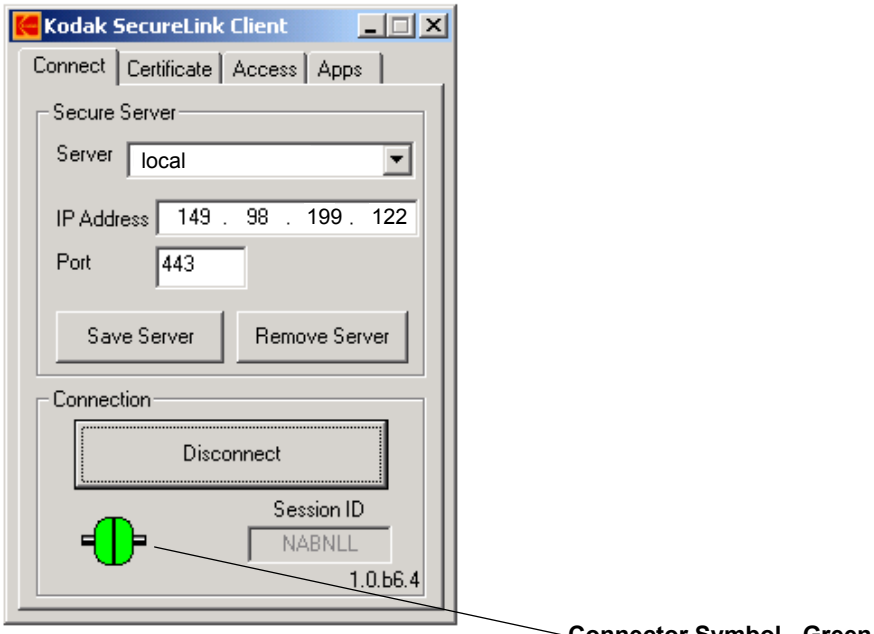
Note

It is not necessary to enter a name in the Server field.

[6] Click [Connect].

If the connection is successful:

- The 2 parts of the connector symbol close and the color changes to green.
- The [Connect] button changes to [Disconnect].



After you connect

This completes the "SecureLink" authentication procedure. You can now use the MIM Service Application or *pcAnywhere* on your LAPTOP COMPUTER to access the target MIM.

For more detailed connection instructions, refer to the following procedures.

Connecting your LAPTOP COMPUTER to a MIM using a SERIAL CABLE - for LAPTOP COMPUTERS with *Windows* 98

You can use this procedure:

- To access the MIM that you physically connected with the serial cable.
- To establish a pass-through connection to any other MIM on the same local area network as the first MIM.

Note

Before you can connect using this procedure, you must have completed the setup tasks listed in "Setup Tasks" on Page 2–3 on your LAPTOP COMPUTER. Normally, you will set up these items during MIM training.

[1] De-energize your LAPTOP COMPUTER and the MIM.

[2] Is there an external MODEM connected to this MIM?

Yes	No
Continue with Step 3	Advance to Step 5

[3] De-energize the MODEM.

[4] Disconnect the MODEM cable from the MIM SERIAL PORT.

[5] Connect the SERIAL CABLE (TL-5224) between the SERIAL PORT of the LAPTOP COMPUTER and the COM 1 (Service) PORT of the MIM.

[6] Energize the LAPTOP COMPUTER and the MIM.

[7] Log on to your LAPTOP COMPUTER.

[8] From the TASKBAR, select **Start>Programs>Accessories>Communications>Direct Cable Connection**.

[9] Set "Connection" to "Guest."

[10] Select "Connect."

[11] When a connection is made, cancel the window that prompts you to share files.

A pop-up window will show that the connection is established.

[12] Authenticate the connection with “SecureLink.”

(a) From the task bar: **Start** >**Programs**>**Kodak**>**SecureLink**.

(b) Enter your “SecureLink” Password.

(c) Enter the IP Address of the target MIM:

- To access the MIM connected by the serial cable, enter the RAS address or IP Address of this MIM.
- For a pass-through connection to another MIM on the same local area network, enter the IP address of the target MIM.

(d) Make sure the Port value is 443

(e) Click [Connect].

The connection is complete when the “SecureLink” connection symbol closes and changes from red to green.

You can then use the MIM Service Application:

- Start the MIM SERVICE APPLICATION on your laptop and use it to do maintenance functions on the target MIM.
- Start *pcAnywhere* on your LAPTOP COMPUTER and use it to take control of the target MIM.

Connecting your LAPTOP COMPUTER to a MIM using a SERIAL CABLE - for LAPTOP COMPUTERS with *Windows* 2000 or *Windows* NT

This procedure enables a Remote Access Service (RAS) connection to a MIM over a serial line. This is the normal mode of connection to the MIM.

You can use this procedure:

- To access the MIM that you physically connected with the serial cable.
- To establish a pass-through connection to any other MIM on the same local area network as the first MIM.

Note

Before you can connect using this procedure, you must have completed the setup tasks listed in "Setup Tasks" on Page 2–3 on your LAPTOP COMPUTER. Normally, you will set up these items during MIM training.

[1] De-energize your LAPTOP COMPUTER and the MIM.

[2] Is there an external MODEM connected to this MIM?

Yes	No
Continue with Step 3	Advance to Step 5

[3] De-energize the MODEM.

[4] Disconnect the MODEM cable from the MIM SERIAL PORT.

[5] Connect the SERIAL CABLE (TL-5224) between the SERIAL PORT of the LAPTOP COMPUTER and the COM 1 (Service) PORT of the MIM.

[6] Energize the LAPTOP COMPUTER and the MIM.

[7] Log on to your LAPTOP COMPUTER.

[8] From the desktop on the LAPTOP COMPUTER, click the shortcut to "Connect to MIM Products."

Note

This shortcut was created when you LAPTOP COMPUTER was set up for a direct serial port connection.

[9] At the "Connect to" window, type **Service** for the user name.

[10] Click [Accept] in the "Network Protocol Connection Result" screen.

[11] Type **Service** for the password.

[12] Click [Connect]. The LAPTOP COMPUTER displays the "Connection Complete" screen.

[13] Authenticate the connection with "SecureLink."

(a) From the task bar: **Start** >**Programs**>**Kodak**>**SecureLink**.

(b) Enter your "SecureLink" Password.

(c) Enter the IP Address of the target MIM:

- To access the MIM connected by the serial cable, enter the RAS Address or IP Address of this MIM.
- For a pass-through connection to another MIM on the same local area network, enter the IP Address of the target MIM.

(d) Make sure the Port value is 443

(e) Click [Connect].

The connection is complete when the "SecureLink" connection symbol closes and changes from red to green.

You can then use the MIM Service Application:

- Start the MIM SERVICE APPLICATION on your laptop and use it to do maintenance functions on the target MIM.
- Start *pcAnywhere* on your LAPTOP COMPUTER and use it to take control of the target MIM.

Connecting to a MIM through a MODEM Connection

Use this method to connect to a MIM over the dial-up telephone network. You will need access to a wall jack for an analog telephone line. The MIM that you call must have an optional MODEM installed.

You can use this procedure:

- To access the MIM that has a MODEM.
- To establish a pass-through connection to any other MIM on the same local area network as the MIM with the MODEM.

Note

Before you can connect using this procedure, you must complete the setup tasks in the table on Page 2–3, on your LAPTOP COMPUTER. Normally, you will set up these items during MIM training.

Important

If the target MIM has an EXTERNAL MODEM, the POWER SWITCH on the MIM must have been cycled OFF and then ON after the MODEM was INSTALLED. If this has not been done, the MIM will not respond to a call from your LAPTOP COMPUTER through the MODEM.

[1] De-energize your LAPTOP COMPUTER.

[2] Connect a telephone cable from the MODEM PORT on your LAPTOP COMPUTER to a telephone wall jack.

[3] Energize your LAPTOP COMPUTER.

[4] At the taskbar, select:

- For *Windows* 98*:* **Start>Programs>Accessories>Communications>Dial-Up Networking**.
- For *Windows* 2000 *and Windows* NT*:* **Start>Programs>Accessories>Communications>Networking and Dial-up Connections**

[5] In the networking folder, double-click the icon for the MIM that you want to access.

Note

To use this procedure you must have previously set up a connection icon in your networking folder for the MIM you wish to access through a MODEM.

[6] At the “Connect to” window, type **PLMIMService** for the user name.

[7] Type **NetServer** for the password.

[8] Click [Connect]. The LAPTOP COMPUTER displays the “Connected to MIM” message.

[9] Authenticate the connection with “SecureLink.”

(a) From the task bar select: **Start** >**Programs**>**Kodak**>**SecureLink**.

(b) Enter your “SecureLink” Password.

(c) Enter the IP Address of the target MIM

- To access the MIM with the MODEM, enter the IP Address of this MIM.
- For a pass-through connection to another MIM on the same local area network, enter the IP Address of the target MIM.

(d) Make sure the Port value is 443

(e) Click [Connect].

If the connection is successful, the connector symbol in the display closes and turns green. You can then:

- Start the MIM SERVICE APPLICATION on your laptop and use it to do maintenance functions on the target MIM.
- Start *pcAnywhere* on your LAPTOP COMPUTER and use it to take control of the target MIM.

Connecting to a MIM with a Network Connection

Use this method to connect to a MIM over the customer's *Ethernet* network. You will need access to a RJ-45 jack on the network.

[1] Assign an IP Address to your LAPTOP COMPUTER that is on the same subnet as the MIM you want to access.

[2] De-energize your LAPTOP COMPUTER.

[3] Connect a NETWORK CABLE from the NETWORK PORT on the LAPTOP COMPUTER to the customer network.

[4] Energize your LAPTOP COMPUTER.

[5] Authenticate the connection with "SecureLink."

(a) From the task bar: **Start** >**Programs**>**Kodak**>**SecureLink**.

(b) Enter your "SecureLink" Password.

(c) Enter the IP Address of the target MIM.

(d) Make sure the Port value is 443

Note

It is not necessary to enter a name in the Server field.

(e) Click [Connect].

If the connection is successful, the connector symbol in the display closes and turns green. You can then:

- Start the MIM SERVICE APPLICATION on your laptop and use it to do maintenance functions on the target MIM.
- Start *pcAnywhere* on your LAPTOP COMPUTER and use it to take control of the target MIM.

Connecting to a MIM with a NETWORK CROSSOVER CABLE

Use this method to connect your LAPTOP COMPUTER to a MIM using a NETWORK CROSSOVER CABLE.

[1] Assign an IP Address to your LAPTOP COMPUTER that is on the same subnet as the MIM you want to access.

[2] De-energize your LAPTOP COMPUTER.

[3] Connect a NETWORK CROSSOVER CABLE from the NETWORK PORT on your LAPTOP COMPUTER to the NETWORK PORT on the MIM.

[4] Energize your LAPTOP COMPUTER.

[5] Authenticate the connection with “SecureLink”.

(a) From the task bar: **Start** >**Programs**>**Kodak**>**SecureLink**.

(b) Enter your “SecureLink” Password.

(c) Enter the IP Address of the target MIM.

(d) Make sure the Port value is 443

Note

It is not necessary to enter a name in the Server field.

(e) Click [Connect].

If the connection is successful, the connector symbol in the display closes and turns green. You can then:

- Start the MIM SERVICE APPLICATION on your laptop and use it to do maintenance functions on the target MIM.
- Start *pcAnywhere* on your LAPTOP COMPUTER and use it to take control of the target MIM.

Connecting your LAPTOP COMPUTER to a MIM with a VPN Connection

VPN is a secure method of accessing some MIM sites over the Internet.

If you require remote access to a site through the Kodak VPN, contact the Technical Support Center (TSC).

Using the MIM Service Application

Service Application Functions

The “MIM Service Application” is the primary tool for installation and troubleshooting. It provides 5 main functions, which can be selected by tabs on the main screen. See the following table.

Table 2–3 “MIM Service Application” Main Functions

Function	Selections	Use To:
Connect	**Connect to MIM**	Links the MIM Service Application to the MIM to which your LAPTOP COMPUTER is connected.
	Network Broadcasting	Used to enable/disable broadcast of MIM connection info. on the network. Connect/Local will not work if disabled.
	Disconnect	Disconnect LAPTOP COMPUTER from MIM.
	Exit	Exit from Service Application.
Configure	**Service Tracking Information**	Check and, if necessary, correct service ID data for the MIM.
	Network	Set up the MIM to be a device on the network.
	Input	Set up inputs to MIM: network, digital or video.
	Destination	Set up the PRINTER, storage device, or network destination.
	HIS/RIS Gateway	Set up the storage WORKSTATION parameters.
	Disk Management	Set high water mark (normally 75%) and low water mark (50%) for MIM memory. At 75% full, MIM begins to delete oldest image files. At 50% full MIM stops deleting. Do not change these values without consulting TSC.
	Save Configuration	Save the current MIM configuration to FLOPPY.
	Restore Configuration	Restore the MIM to the last saved configuration.
	Network Profiles	Set up the network addresses for a “mobile” 25 PS.
	SCP Services	Display connected SCUs, optimize image parameters.
	Text Box Relocation	Allows patient and exam information to be cut and placed back in a cropped image.
Logs	**Logging Levels**	Select level of detail in logs.
	Activity History	Display log of MIM activity between specified dates/times.
	Error History	Display log of all errors between specified dates/times.
	Error Frequency	Display list of all errors indicating numbers of each.
	Clear Error Frequency	Clear the Error Frequency Log.
Diagnostics	**System**	Print a test image or transfer the last stored image.
	Digital	Test DIGITAL INTERFACE BOARD.
	Video	Test VIDEO 150, 150LC or 60 INTERFACE BOARD.
	Delivery	Test OUTPUT BOARD: FOPCIL or COPCIL.
	Network	Test connection to an address on network using Ping or Echo.
Admin	**Change Password**	Change password for entering “MIM Service Application.”
	Update Software	Update MIM software/firmware.
	Clear Job Queues	All print queues and studies will be removed from the MIM.
	Software Licenses	Display list of licensed and unlicensed destinations.
	Shutdown MIM	Shut down the MIM.
	View MODALITY Database	Display list of all qualified MODALITIES.
	View Destination Database	Display list of all qualified PRINTERS and storage devices.
	Printing Statistics Database	Display print count per DICOM or direct MODALITY input.

Starting the “MIM Service Application”

Important

- Only 1 user can connect to a MIM at a time.

Important

The beginning and end IP Address for the RAS must be set up for passthrough access.

- For a PRINT SERVER see “Setting up the Network Address of the PRINT SERVER” in Section 6.
- For a Modality Server see “Setting up the MODALITY SERVER for the NETWORK” in Section 7.

[1] Connect your LAPTOP COMPUTER to the target MIM. Refer to “Connecting Your LAPTOP COMPUTER to a MIM” on Page 2–23

[2] At the *Windows* TASKBAR, select **Start>Programs>MIM Service**.

[3] Open the correct version of the “MIM Service Application.”

Note

If the application software for the MIM is V_6.1, the “MIM Service Application” will also be V_6.1.

[4] At the “MIM Service Application” window, select **Connect>Connect to MIM**.

The “MIM Service Application” is now ready for use.

Quitting the Service Application

[1] At the “MIM Service Application” window, select **Connect>Disconnect**.

[2] Select **Connect>Exit** to quit the “MIM Service Application.”

Your LAPTOP COMPUTER remains connected to the MIM.

Using *pcAnywhere*

The *pcAnywhere* REMOTE CONTROL SOFTWARE allows your LAPTOP COMPUTER to take control of a connected MIM. When *pcAnywhere* is connected to a target MIM, the *Windows* 2000 DESKTOP of the MIM displays on the LAPTOP COMPUTER screen. You can then use the keyboard and mouse of the LAPTOP COMPUTER to control the MIM.

pcAnywhere allows direct access to the *Windows* 2000 DESKTOP and the files on the MIM, including the logs. *pcAnywhere* can be used to diagnose MIM database or hardware/*Windows* 2000 problems that the "MIM Service Application" cannot diagnose. The "MIM Service Application" can also be used through *pcAnywhere*.

The *pcAnywhere* software must be installed on both the MIM and the LAPTOP COMPUTER. In the MIM, *pcAnywhere* is defaulted to "Host," which means that the MIM is ready to take a call from the LAPTOP COMPUTER at any time. *pcAnywhere* is installed in all MIMs at the factory. You must install *pcAnywhere* on your LAPTOP COMPUTER as described on Page 2–21.

To use *pcAnywhere*, first connect your LAPTOP COMPUTER to the target MIM using "SecureLink" and any of the connection methods described on Page 2–23. Then you can start *pcAnywhere* on your LAPTOP COMPUTER and make a *pcAnywhere* connection to the target MIM.

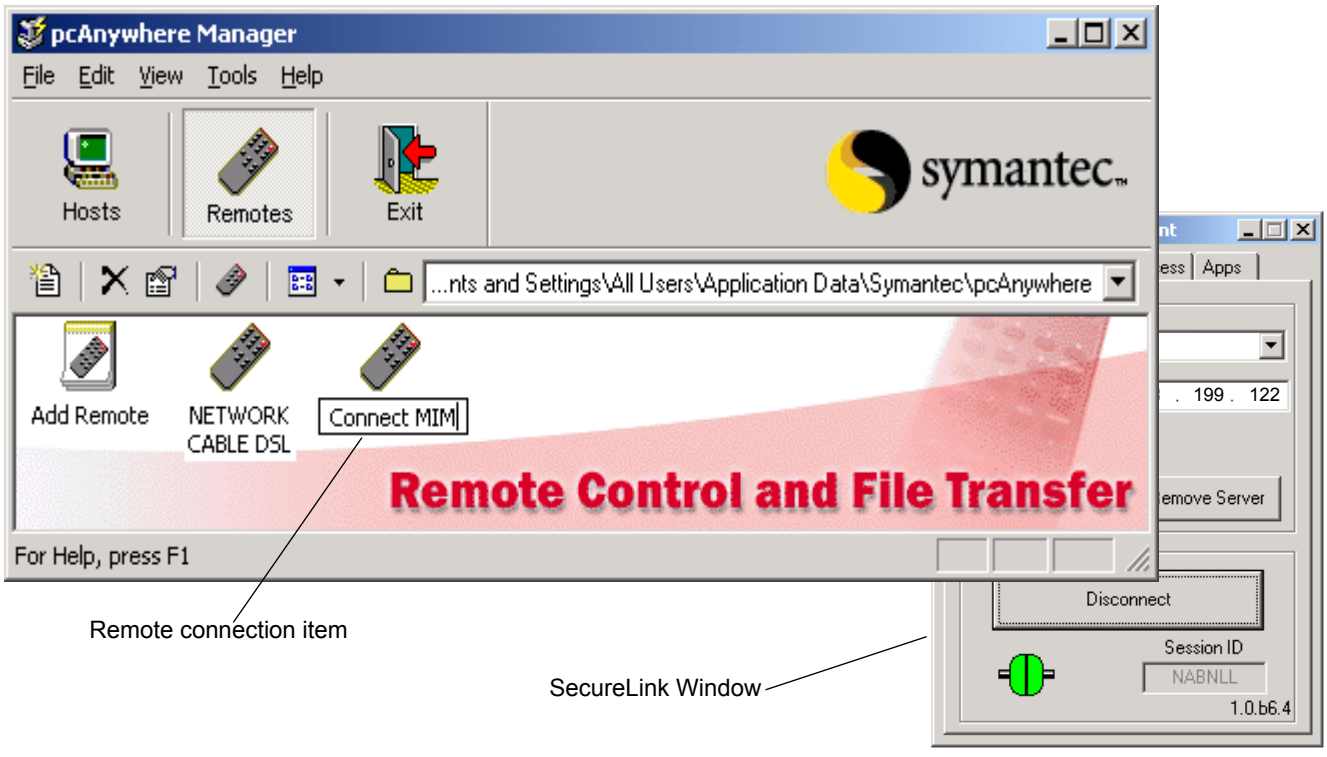
Starting *pcAnywhere* on your LAPTOP COMPUTER

To use this procedure you must have created a *pcAnywhere* remote connection item on your LAPTOP COMPUTER. See "Creating a Remote Connection Item for pcAnywhere" on Page 2–21.

[1] Connect to the target MIM. Use any of the methods listed in "Connection Methods" on Page 2–23.

After you connect the "SecureLink" window will remain open on your desktop.

[2] From the TASKBAR: select **Start->Programs->Symantec *pcAnywhere***.



[3] Click "Remotes."

[4] Double-click "Connect MIM 6.1."

Note

"Connect MIM" is the *pcAnywhere* remote connection item you created previously. See See "Creating a Remote Connection Item for pcAnywhere" on Page 2–21.

Note

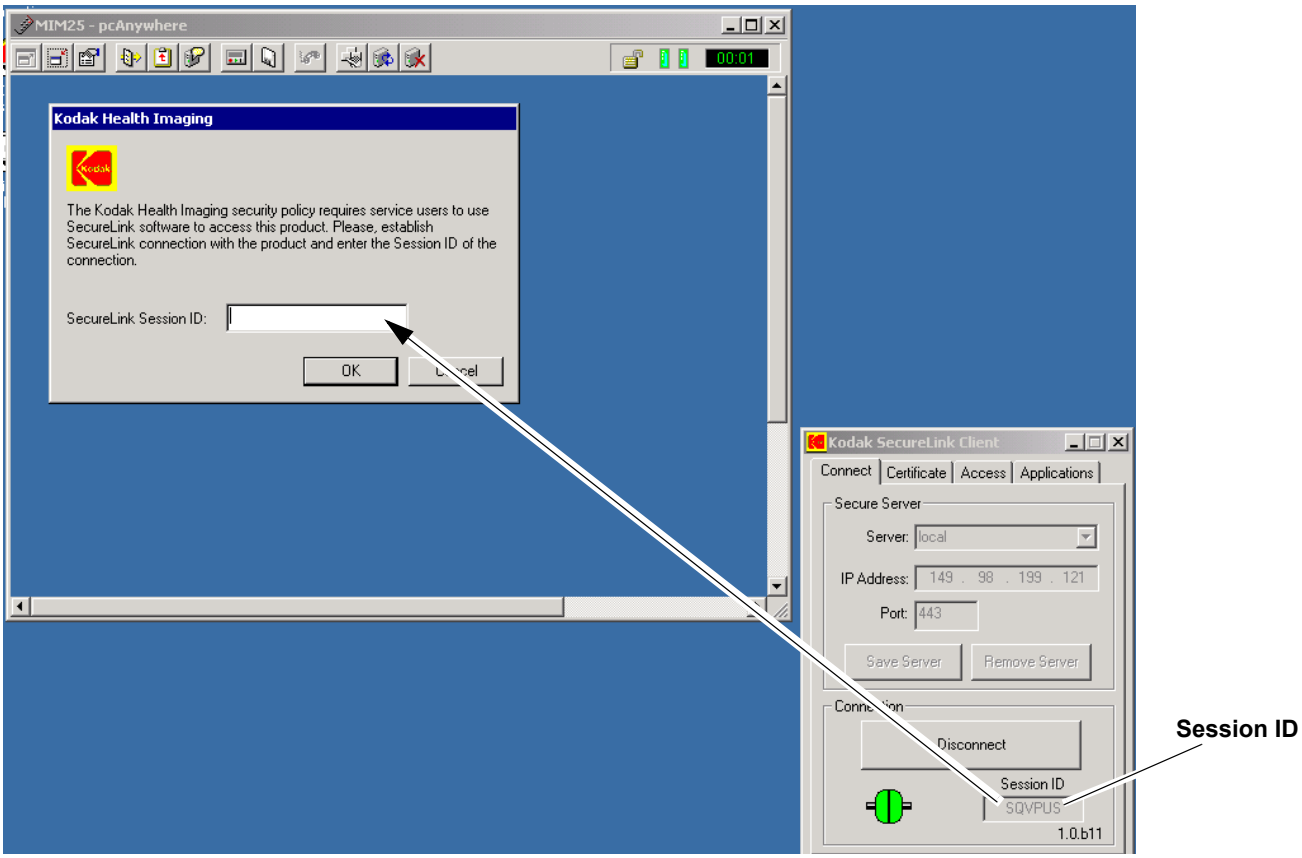
Do not press Ctrl-Alt-Del on your keyboard.

[5] Click the Ctrl-Alt-Del icon.

[6] Type **RNIServiceManager** for the user name.

[7] Type **NetServer** for the password.

[8] Click [OK].



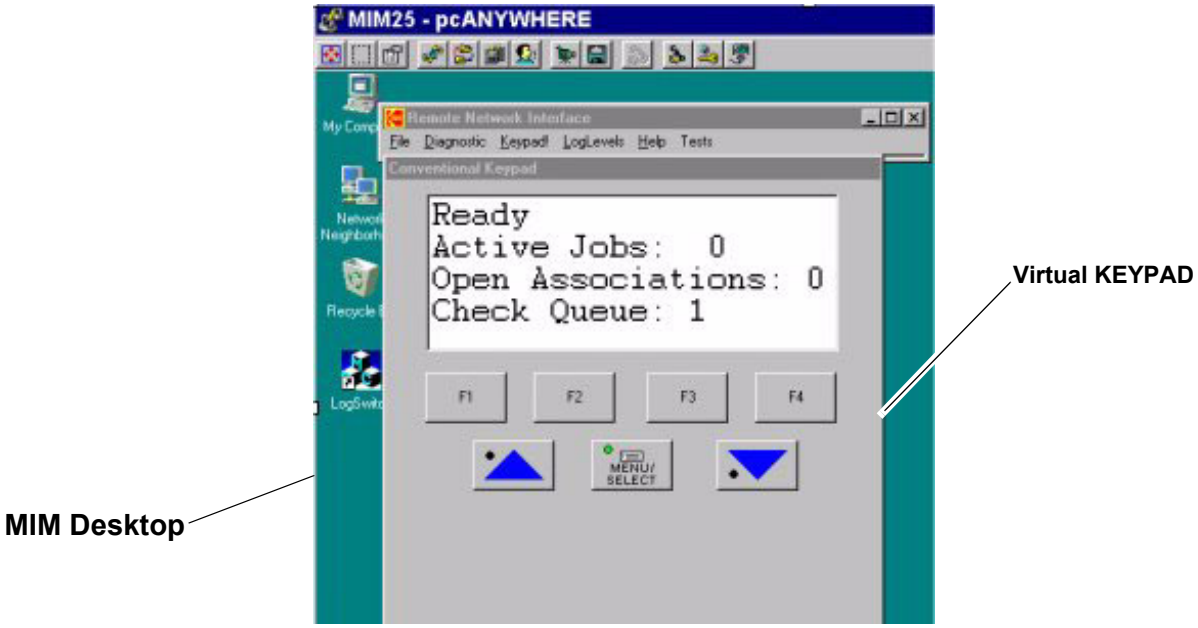
[9] Enter the "Session ID" from the "SecureLink Client" window.

Note

The "Session ID" is always displayed as 6 upper-case letters on the "SecureLink" screen.

[10] Click [OK].

The *Windows* 2000 DESKTOP of the target MIM displays in the *pcAnywhere* window.



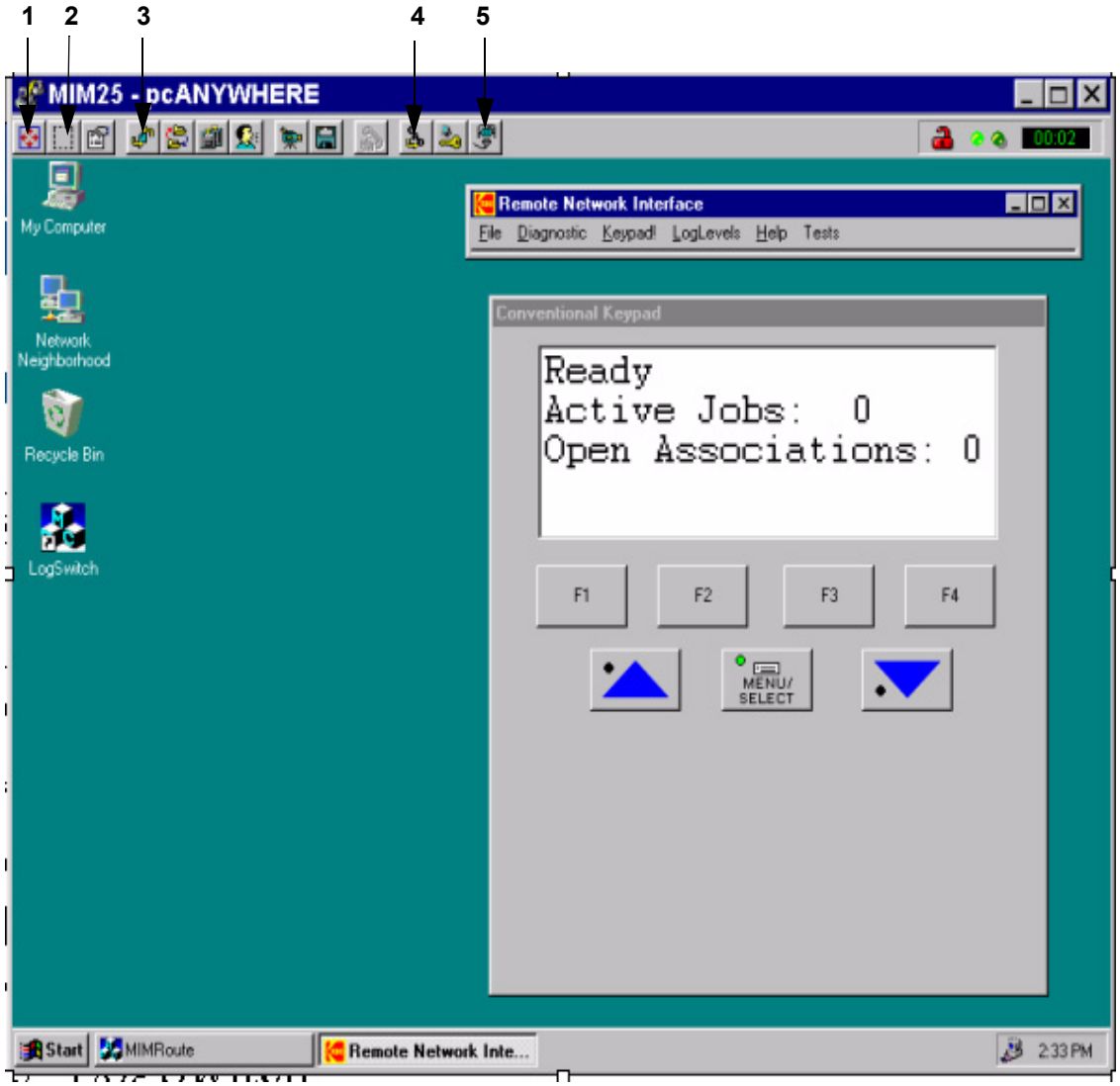
All KEYPADS connected to the MIM will be displayed as virtual KEYPADS on the MIM desktop. Icons on the lower TASKBAR indicate the application software that is running: "MIMRoute," "Remote Network Interface," etc.

You can now use the KEYBOARD and MOUSE on your LAPTOP COMPUTER to control the MIM.

From your LAPTOP COMPUTER you can:

- View the MIM VIRTUAL KEYPADS on the MIM desktop.
- Examine the MIM logs.
- Run on the MIM any of the diagnostic tools that are part of *Windows* 2000.
- Use *Windows* EXPLORER on the MIM to locate files on the MIM.
- Run the MIM Service Application on the MIM.

Buttons and Hot Keys for *pcAnywhere*



Button	Function
1. Full Screen	Not applicable for MIM functions. If you enter “full screen” mode, you can exit by pressing [Alt] [Enter]
2. Scaling	Allows the server’s TASKBAR to display, but may result in poor resolution.
3. File Transfer	Used to transfer MIM files to the LAPTOP COMPUTER.
4. C-A-D	Starts the Ctrl-Alt-Delete function at the MIM. Also must be selected before the *pcAnywhere* session is ended.
5. Disconnect	Used to disconnect and end a *pcAnywhere* remote control session.

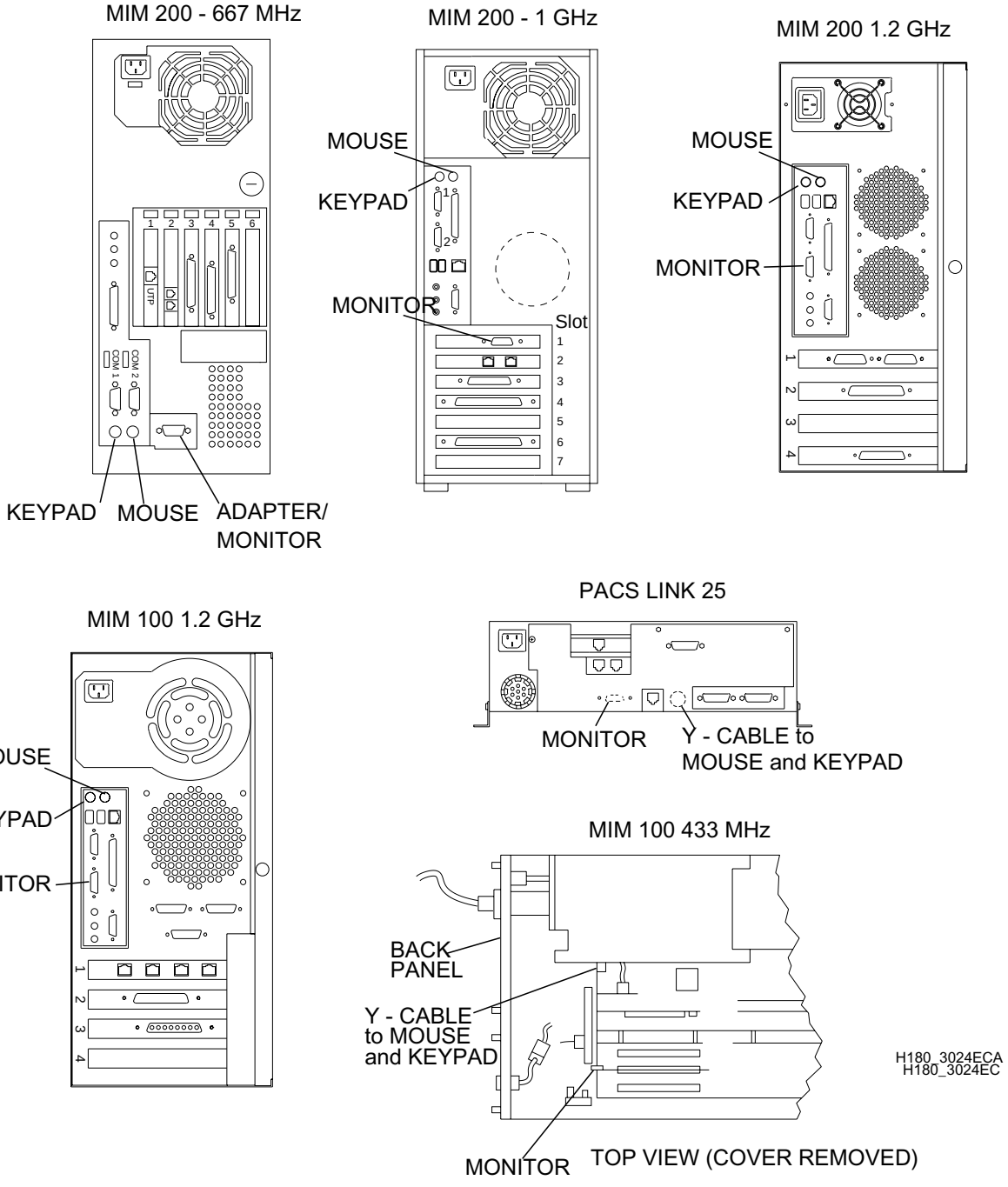
Important

- If the *pcAnywhere* screen is not set up correctly because of any of the following problems, you might have to disconnect and recall the “Host” Server:
  - The *pcAnywhere* upper TASKBAR does not appear.
  - The screen display appears to be out of sync.
  - The desktop icons do not appear.
- For best results, check that the screen resolution for both the “Host” Server and Remote Server match.

Using a MONITOR KIT to Access the MIM

A MONITOR KIT, Part No. 96-000-5311-4, is necessary for setting up the BIOS in a MIM. The MONITOR KIT can also be used to connect with the "MIM Service Application" stored in the MIM to do service functions.

Before you can log on to the MIM with the MONITOR KIT, you must establish a "SecureLink" connection to the MIM from your LAPTOP COMPUTER. This is a security measure to prevent unauthorized access to the MIM using the MONITOR KIT.



[1] Connect the MONITOR KIT to the MIM:

(a) Remove the COVER on the MIM, if necessary.

(b) Connect the CABLES from the MONITOR, KEYBOARD, and MOUSE to the MIM.

Note

To connect the CABLE of the MONITOR to the MIM 200, 667 MHz, use ADAPTER PLUG (3H9543). To connect the KEYBOARD and MOUSE to the 25 PS and MIM 100, use Y CABLE (TL5371). The 25 PS and MIM 100 have a single CONNECTOR for KEYBOARD and MOUSE.

[2] Energize the MIM and the MONITOR.

[3] Connect your LAPTOP COMPUTER to the MIM using SecureLink.

Note

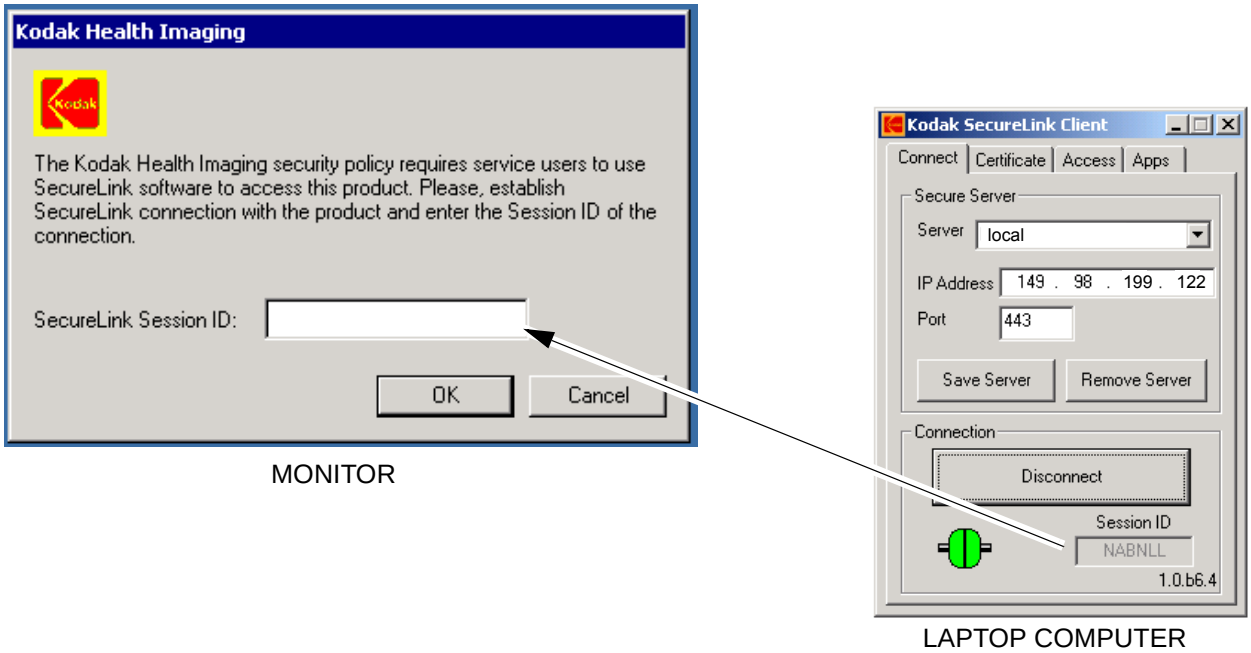
Use any of the connection methods described in "Connecting Your LAPTOP COMPUTER to a MIM" on Page 2–23.

[4] At the MONITOR KIT KEYBOARD, press Ctrl-Alt-Del.

[5] Enter:

- Username: **RNIServiceManager**
- Password: **NetServer**

[6] Click [OK].



[7] Enter the “Session ID” from the “SecureLink Client” screen on your LAPTOP COMPUTER.

Note

The “Session ID” is always displayed as 6 upper-case letters on the “SecureLink” screen.

[8] Click [OK].

The MIM *Windows* DESKTOP will display on the monitor.

[9] Using the MONITOR KIT you now can:

(a) Start the MIM Service Application on the MIM.

(b) Open *Windows* EXPLORER to examine logs.

(c) Use *Windows* DIAGNOSTIC TOOLS.

[10] To start the “MIM Service Application:”

(a) On the MIM desktop, Double-click the Shortcut named **mimdui**

(b) At the “MIM Service Application” window, select **Connect>Connect to MIM**.

Section 3: Installing the Hardware

Introduction

This section provides instructions for installing and setting up the following MIMs:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200)
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 (MIM 100)
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)

The instructions include information for connecting MIM PRINT SERVERS to the following LASER IMAGERS:

- *Kodak Ektascan* 1120 LASER PRINTER
- *Kodak Ektascan* 2180 LASER PRINTER
- *Kodak Ektascan* 160 LASER IMAGER
- *Kodak DryView* 8100 LASER IMAGER
- *Kodak DryView* 8200 LASER IMAGER
- *Kodak DryView* 8300 LASER IMAGER
- *Kodak DryView* 8500 LASER IMAGER / PLUS
- *Kodak DryView* 8500 LASER IMAGER / STANDARD
- *Kodak DryView* 8600 LASER IMAGER
- *Kodak DryView* 8610 LASER IMAGER
- *Kodak DryView* 8700 LASER IMAGER / PLUS
- *Kodak DryView* 8700 LASER IMAGER / STANDARD
- *Kodak DryView* 8800 MULTI-INPUT MANAGER
- *Kodak DryView* 969 HQ LASER IMAGER
- *Kodak DryView* 969 HQT LASER IMAGER

Installation of the hardware includes:

- ❒ Unpacking
- ❒ Installing a 25 PS
- ❒ Connecting System CABLES
- ❒ Terminating Video Inputs
- ❒ Connecting a Telephone Line to an INTERNAL MODEM
- ❒ Installing an EXTERNAL MODEM
- ❒ Installing a FIBER OPTIC OUTPUT (FOPCIL) BOARD
- ❒ Installing a COPPER OUTPUT (COPCIL) BOARD
- ❒ Network Isolation for the MIM 200 - European
- ❒ MIM 200 System Setup Per IEC 60601-1-1/EN 60601-1-1 Requirements
- ❒ Connecting the KEYPAD Directly to the MODALITY
- ❒ Preparing for Application of Power
- ❒ Energizing the MIM
- ❒ De-energizing the MIM

Important

The site must be prepared for installation of the MIM as described in the SITE SPECIFICATIONS for the MIM. Before installation of the MIM, the customer must provide IP and RAS Addresses for all equipment to be installed. Also, before the MIM can be installed, the customer must install:

- All NETWORK CABLES
- All FIBER OPTIC CABLES
- All 42 m (138 ft.) and 45 m (148 ft.) CABLES
- Space on wall for installation of MIM, if necessary. This is optional for MIM 100 and PS 25.
- Analog telephone line for a MODEM

Unpacking System Components

[1] Check with the customer where to install the MIM and move the equipment to this area.

[2] Check the CARTON for damage.

Caution

The SHOCK DETECTOR on the carton for the MIM changes from clear to red if damage occurs during shipment.

[3] Check that:

- The SHOCK DETECTOR is clear.
- The PRODUCT LABEL on the CARTON indicates that the EQUIPMENT is correct for the site.

[4] Unpack the CARTON holding the MIM.

[5] Unpack the other CARTONS and check the contents. They should include:

- A LASER IMAGER, if the MIM will be used as a PRINT SERVER. See the LASER IMAGER SERVICE MANUAL for installation instructions.
- An UNINTERRUPTIBLE POWER SUPPLY (UPS). See the installation instructions sent with the UPS. (A UPS is optional with the MIM 100.) See “Installing the 25 PS on an 8100 or 8200 LASER IMAGER.” for special instructions for the 25 PS.
- CABLES for connecting the MIM to the MODALITY, KEYPAD, HOST CONTROLLER (if used), network and/or PRINTER.
- CD-ROMS with the current version of the MIM Application Software.
- User Guides

Installing the 25 PS

The 25 Print Server is the print server for new orders as it can be used in a hospital, clinic, or mobile unit and has a number of mounting options.

Note

When installing connect the following components:

UPS to the POWER STRIP

25 Print Server to the UPS

UPS COMMUNICATIONS CABLE to COM 2 on the 25 Print Server

In this configuration, the power switch on the power strip will be used to safely power up and down the 25 Print Server.

Important

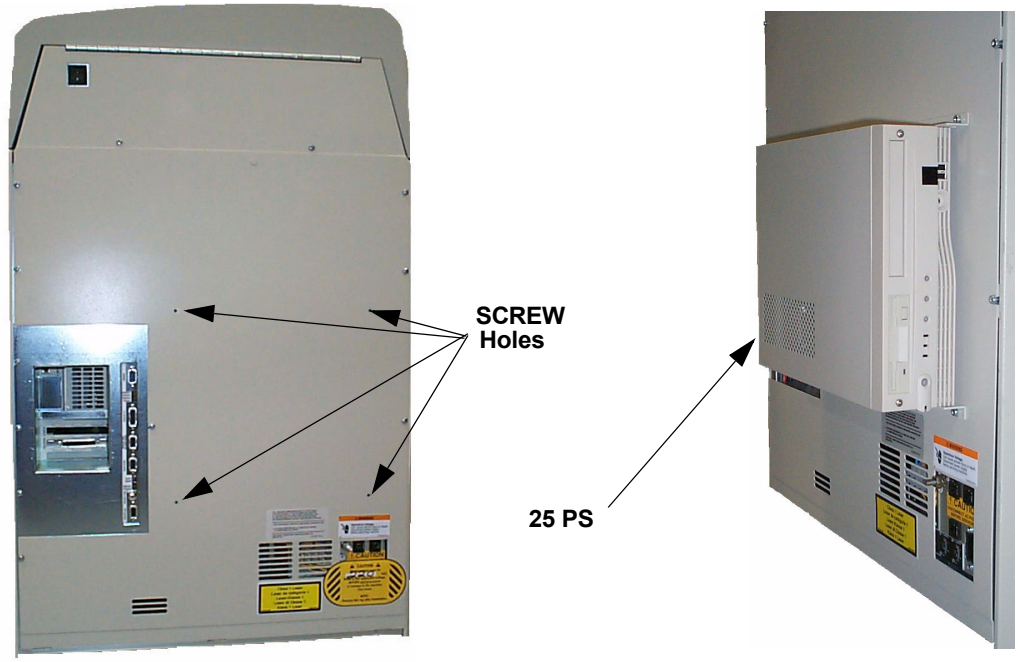
If the 25 Print Server is installed without using the power strip or the UPS communications cable, it is necessary to exit the system software using the Display Keypad, before the 25 Print Server can be safely powered down.

Installing the 25 PS on an 8100 or 8200 LASER IMAGER

If the 25 PS will be used with an 8100 or 8200 LASER IMAGER, it should be installed on the back of the LASER IMAGER. If it will be used with an 8500 or 8700 LASER IMAGER, it will normally be installed on a wall. See "Installing the 25 PS on a Wall."

Instructions for installing an 8100 LASER IMAGER in a MOBILE VAN are included in the MOBILE STRAP KIT 96-0000-4045-9. This KIT is used to fasten the LASER IMAGER to the wall of the MOBILE VAN. Before attaching the LASER IMAGER, install the 25 PS on the BACK PANEL of the LASER IMAGER and install the UPS on the floor of the VAN as instructed in this procedure.

Figure 3–1 Installing a 25 PS on an 8100 LASER IMAGER



[1] Install the 25 PS on the 8100 LASER IMAGER using 5 mm SCREWS. The CONNECTORS of the 25 PS must be adjacent to the CONNECTORS of the LASER IMAGER.

Note

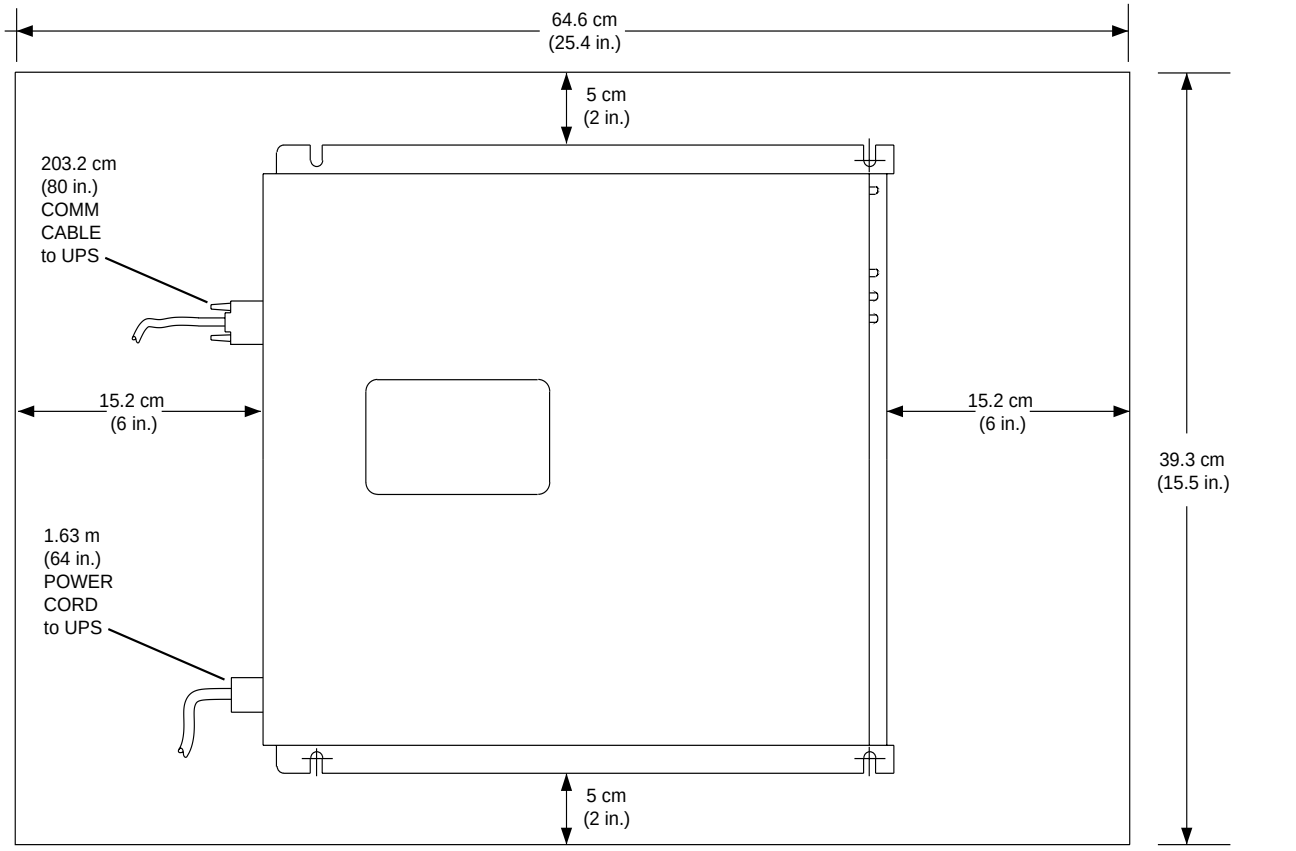
Installation on the 8200 LASER IMAGER is similar, except the 25 PS is installed below the FILTER on the BACK PANEL.

[2] Tighten the SCREWS.

Installing the 25 PS on a Wall

Installation of the 25 PS on a wall is an option for any site. ANCHOR FASTENERS and SCREWS (4 each) for installation on DRYWALL are included with the 25 PS. If the 25 PS will be installed on another type of wall, the customer must supply FASTENERS.

Figure 3–2 Installing the 25 PS on a Wall

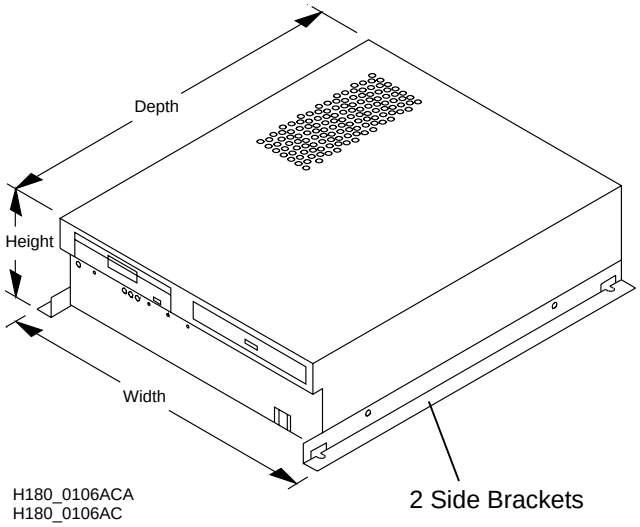


H180_0075HCA
H180_0075HC

[1] Drill pilot holes and install ANCHOR FASTENERS in the wall as shown in the figure.

[2] Fasten the 25 PS to the wall with No.5 SCREWS (4).

Installing the 25 PS on a Shelf



Important

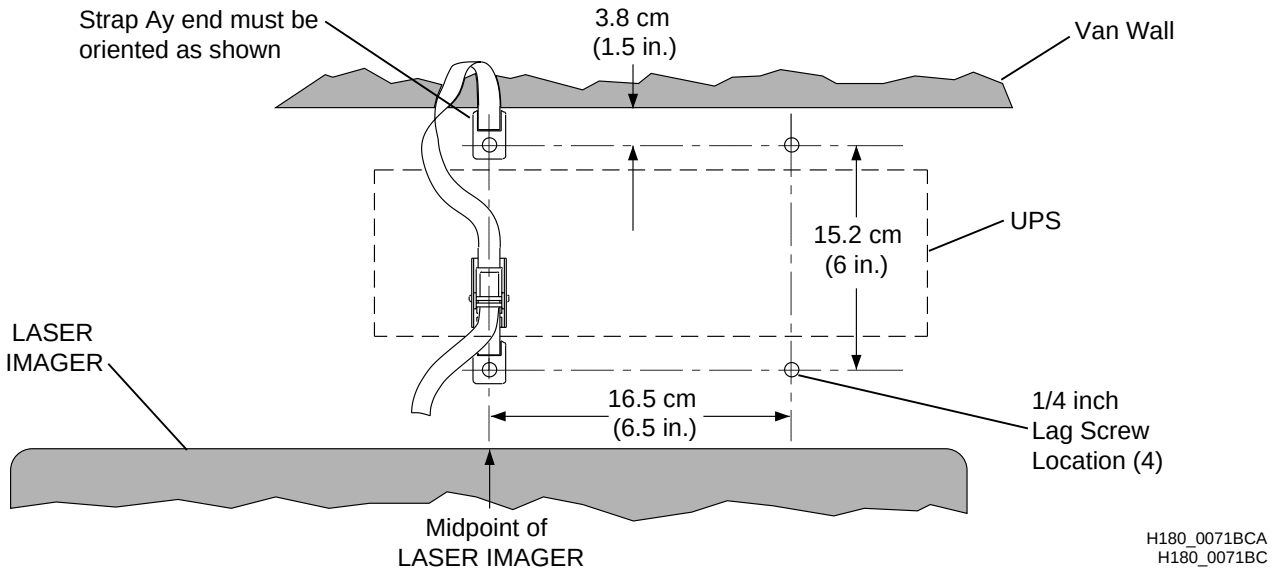
The side brackets should be **removed** to expose 4 rubber feet.

Installing the UPS for the 25 PS

For installation in a MOBILE VAN, the UPS must be fastened to the floor of the VAN with the MOUNTING KIT sent with the 25 PS.

Use the instructions included with the UPS and this procedure. If the 25 PS will be installed in a MOBILE VAN, the UPS must be fastened to the floor of the VAN between the LASER IMAGER and the front wall of the VAN. A UPS HOLDDOWN KIT is available for this purpose.

Figure 3–3 Installing the UPS for the 25 PS on a Mobile Van Floor



[1] Remove the 2 STRAP ASSEMBLIES from the UPS HOLDDOWN KIT.

[2] Mark positions for 4 holes to be drilled on the floor of the VAN. The front 2 holes must be 3.8 cm (1.5 in.) from the front wall.

[3] Drill pilot holes in the floor to a depth of 3.8 cm (1.5 in.). 4 LAG SCREWS (1/4 - 1.5 in.) will be used to attach the STRAP ASSEMBLIES to the floor.

[4] Open the LATCH on each STRAP ASSEMBLY and remove slack from the adjustment STRAP.

[5] Place the STRAP ASSEMBLIES, with the metal ends pointing in the same direction, before installing them. See the figure.

[6] Fasten the metal ends of the STRAP ASSEMBLIES to the floor with the 4 LAG SCREWS. Use a large and a small FLAT WASHER with each LAG SCREW.

[7] Place the UPS in the STRAPS. Tighten and lock the STRAPS.

To install CABLES between the MIM and other components of the system:

- For CABLES for MODALITY SERVERS, see Table 3–1.
- For CABLES for PRINT SERVERS, see Table 3–2.
- For diagrams relating to video termination, RS-232/RS-422 conversion and other CABLE conversion, see Table 3–3.
- To locate COM PORTS on all MIMS, see Table 3–4.

Table 3–1 CABLES for MODALITY SERVERS

MODALITY SERVER/KEYPAD	See Figure:
MIM 200, 2.4 GHz	3–7
MIM 200, 1.2 GHz	3–6
MIM 200, 1 GHz	3–5
MIM 200, 667 MHz	3–4
MIM 100	3–8
TOUCHSCREEN KEYPAD	*3–10*

Table 3–2 CABLES for PRINT SERVERS

PRINT SERVER	Connection Type	LASER IMAGER	See Figure:
MIM 200	*Ethernet*	8200 and 160 LASER IMAGERS	3–11, 3–13
	Fiber Optic (FOPCIL)	8500 and 8700 LASER IMAGERS/PLUS, 8800 MULTI-INPUT MANAGER, 969 HQ LASER IMAGER	3–14, 3–15
	Fiber Optic (CPOI)	2180 and 1120 LASER PRINTERS	3–16, 3–18
	Copper (COPCIL)	8100, 8300, 8600, and 8610 LASER IMAGERS, 8500 and 8700 LASER IMAGERS/STANDARD	3–18, 3–20
MIM 200 1.2 GHz	*Ethernet*	8200 and 160 LASER IMAGERS	3–12
	Fiber Optic (FOPCIL)	8500 and 8700 LASER IMAGERS/PLUS, 8800 MULTI-INPUT MANAGER, 969 HQ LASER IMAGER	3–15
	Fiber Optic (CPOI)	2180 and 1120 LASER PRINTERS	3–17
	Copper (COPCIL)	8100, 8300, 8600, and 8610 LASER IMAGERS, 8500 and 8700 LASER IMAGERS/STANDARD	3–19
25 PS	*Ethernet*	8200 LASER IMAGER	3–21
	Fiber Optic (FOPCIL)	8500 and 8700 LASER IMAGERS/PLUS	
	Copper (COPCIL)	8100 LASER IMAGER, 8500 and 8700 LASER IMAGERS/STANDARD	

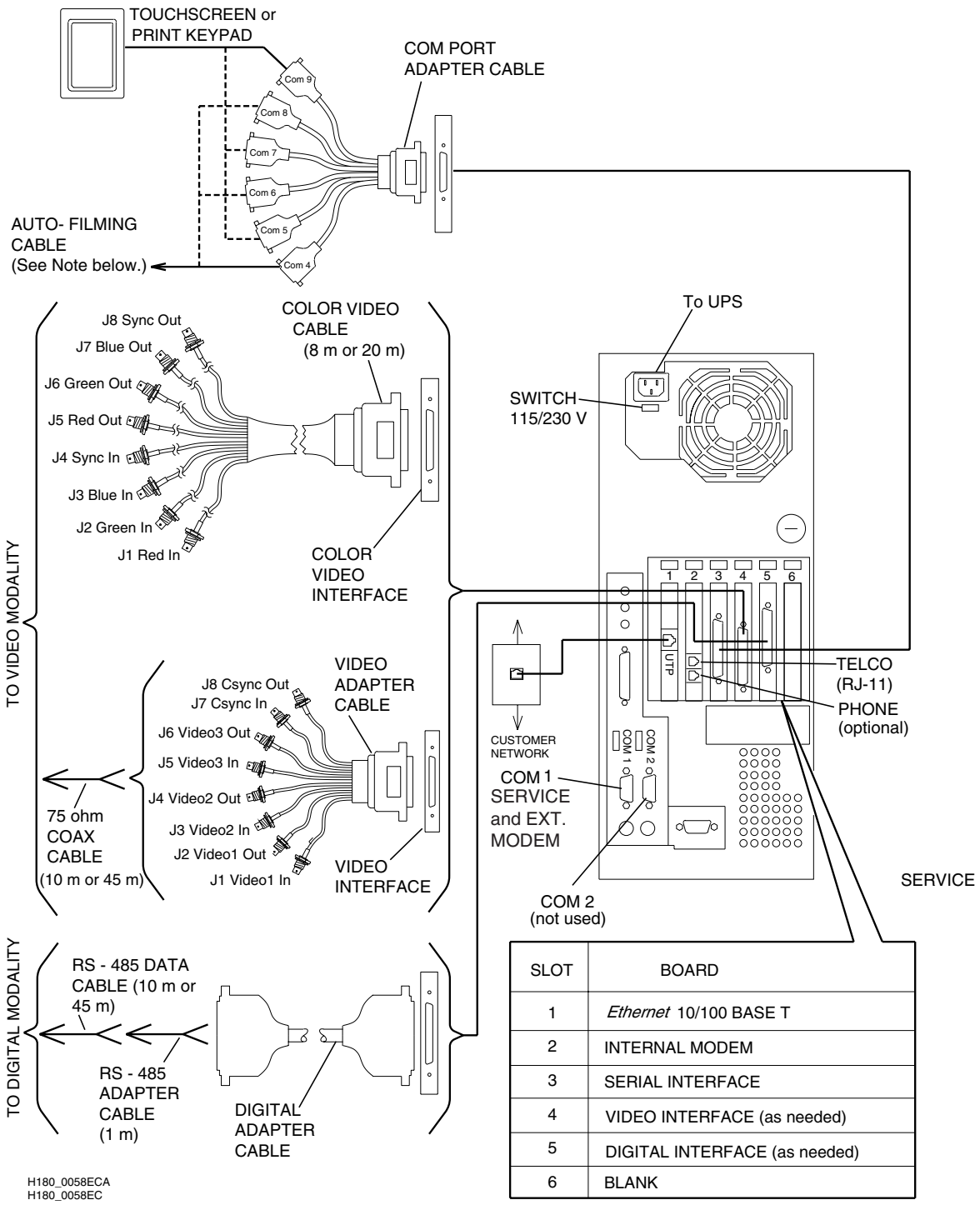
Table 3–3 Other CABLES

CABLE Diagram	See Figure:
MODALITY SERVERS: KEYPAD CABLES for Video Mode	3–22
MODALITY SERVERS: Autofilming CABLES for Video Mode	3–23
MODALITY SERVERS: KEYPAD CABLES for Digital Mode	3–24
MODALITY SERVERS: Autofilming CABLES for Digital Mode - RS422 Serial Control	3–25
MODALITY SERVERS: Autofilming CABLES for Digital Mode - RS232 Converted to RS422 Serial Control	3–26
Siemens Imaging Device: FIBER OPTIC CABLE with *Hirschmann* CONNECTORS	3–27
Siemens Imaging Device: FIBER OPTIC CABLE with *Pritzel* CONNECTORS	3–28
Terminating the Video Input for a MIM 200 with VIDEO 60 INTERFACE BOARD	3–29
Video Imaging Device with 1 Video Output to the MONITOR (Non-terminating Passthrough)	3–30

Table 3–4 Functions of COM PORTS for MIMs

COM PORT	Function	MIM 200 Figure 3–7, Figure 3–5, Figure 3–4	MIM 200-1.2 GHz Figure 3–6	MIM 100 Figure 3–8	MIM 100-1.2 GHz Figure 3–6	25 PS Figure 3–21
1	Service	BACK PANEL	BACK PANEL	BACK PANEL	BACK PANEL	BACK PANEL
2	RS232	BACK PANEL (Not Used)	BACK PANEL (Not Used)	BACK PANEL	BACK PANEL (Not Used)	BACK PANEL (UPS Comm.)
3	MODEM	Slot 2	N/A	BACK PANEL	N/A	* Not used
4	Autofilm	SERIAL CABLE	N/A	BACK PANEL	N/A	* MODEM BD.
5	KEYPAD	SERIAL CABLE	N/A	BACK PANEL	N/A	BACK PANEL
6	Autofilm	SERIAL CABLE	N/A	Not Used	N/A	Not Used
7	KEYPAD	SERIAL CABLE	N/A	Not Used	N/A	Not Used
8	Autofilm 2	SERIAL CABLE	SERIAL CABLE	Not Used	SERIAL CABLE	Not Used
9	KEYPAD 2	SERIAL CABLE	SERIAL CABLE	Not Used	SERIAL CABLE	Not Used
10	Autofilm 1	Slot 1	Slot 1	Not Used	Slot 2	Not Used
11	KEYPAD 1	Slot 1	Slot 1	Not Used	Slot 2	Not Used
* For 25 PS, the MODEM PORT is COM 4.						

Figure 3–4 MIM 200, 667 MHz - MODALITY SERVER CABLES



SLOT	BOARD
1	*Ethernet* 10/100 BASE T
2	INTERNAL MODEM
3	SERIAL INTERFACE
4	VIDEO INTERFACE (as needed)
5	DIGITAL INTERFACE (as needed)
6	BLANK

Note

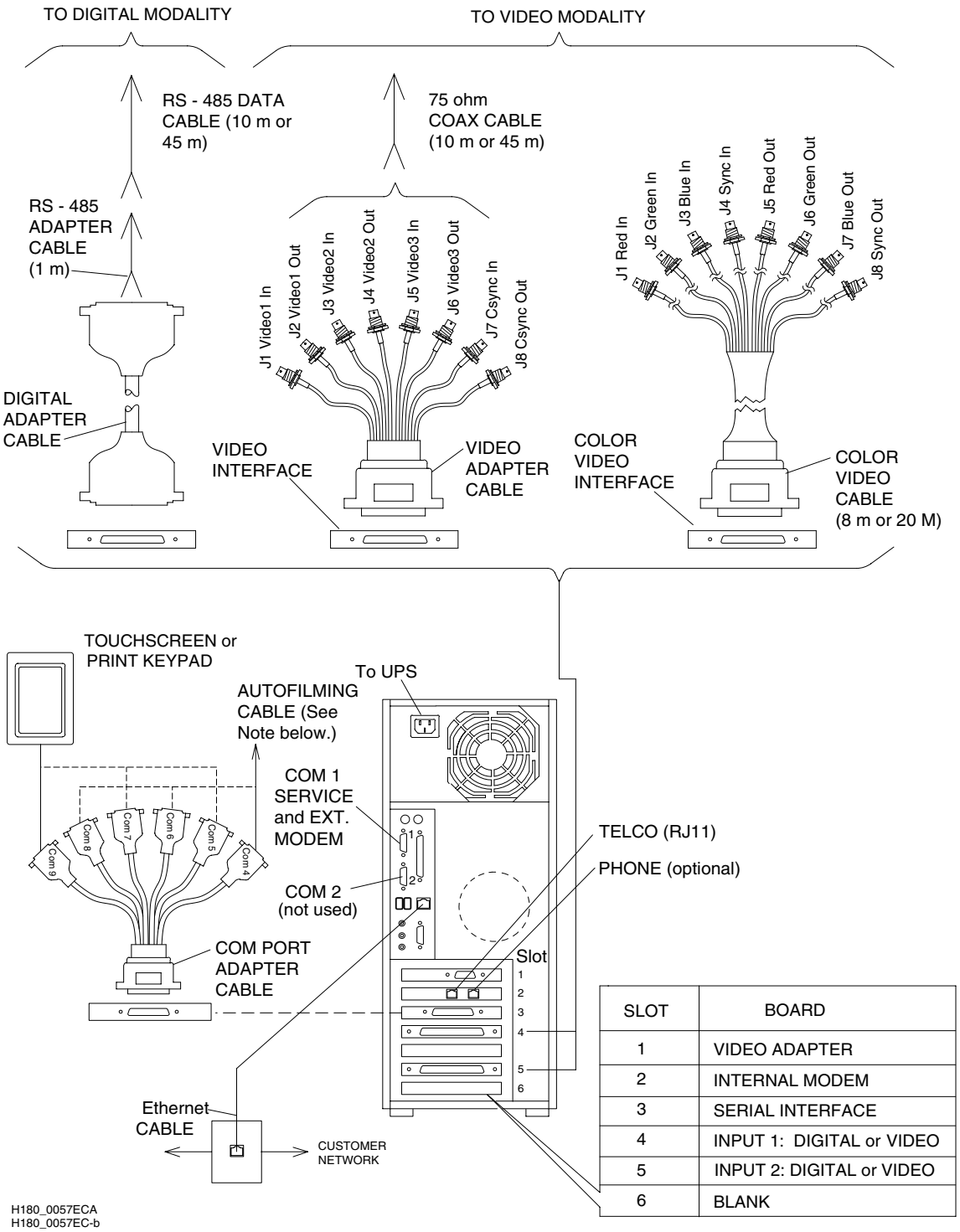
For information on Autofilming CABLES:

- See Figure 3–23 for connections to a VIDEO MODALITY.
- See Figures 3–25 through 3–28 for connections to a DIGITAL MODALITY.

Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

Figure 3–5 MIM 200, 1 GHz - MODALITY SERVER CABLES



SLOT	BOARD
1	VIDEO ADAPTER
2	INTERNAL MODEM
3	SERIAL INTERFACE
4	INPUT 1: DIGITAL or VIDEO
5	INPUT 2: DIGITAL or VIDEO
6	BLANK

Note

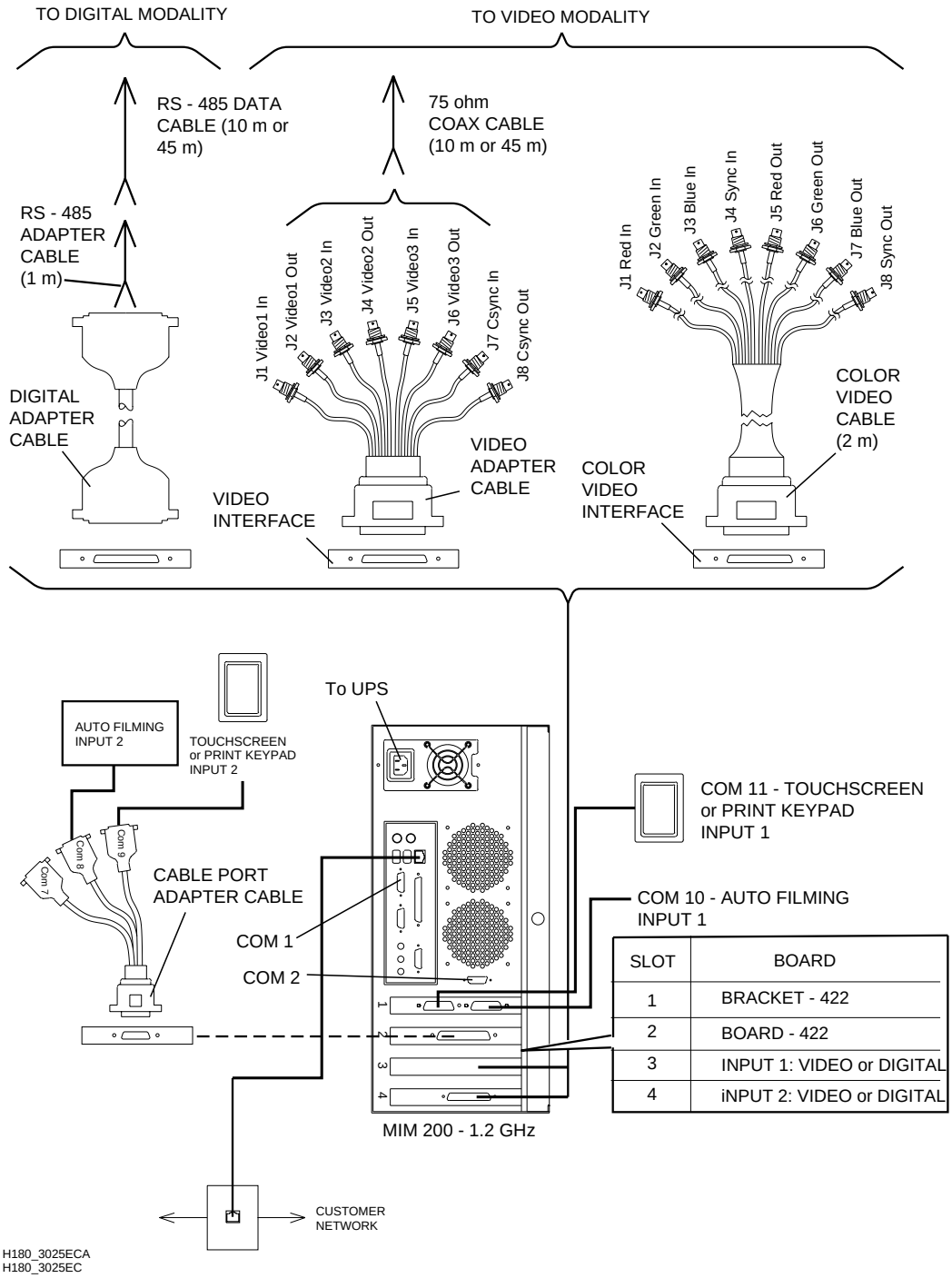
For information on Autofilming CABLES:

- See Figure 3–23 for connections to a VIDEO MODALITY.
- See Figures 3–25 through 3–28 for connections to a DIGITAL MODALITY.

Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

Figure 3–6 MIM 200, 1.2 GHz MODALITY SERVER CABLES



Note

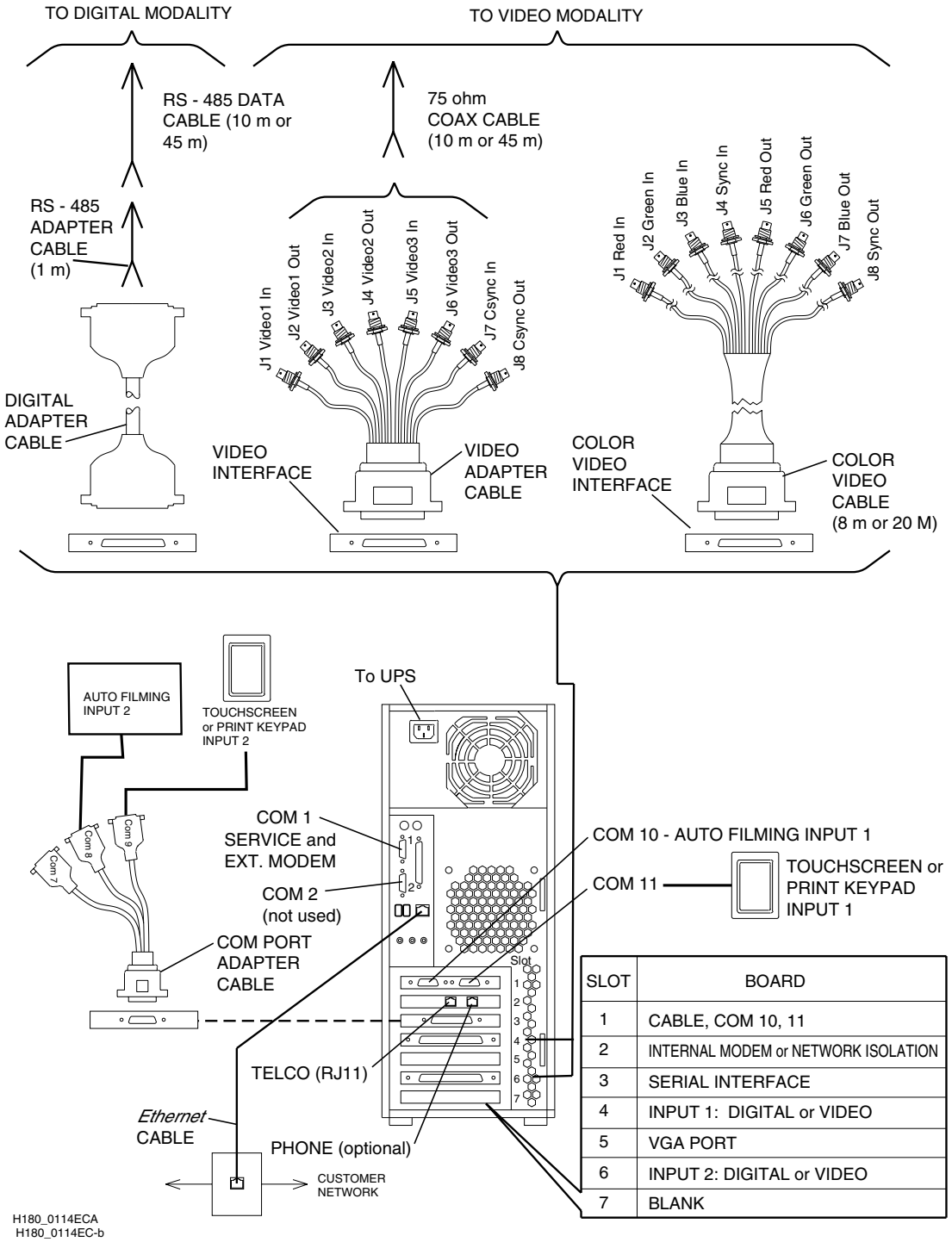
For information on Autofilming CABLES:

- See Figure 3–23 for connections to a VIDEO MODALITY.
- See Figures 3–25 through 3–28 for connections to a DIGITAL MODALITY.

Note

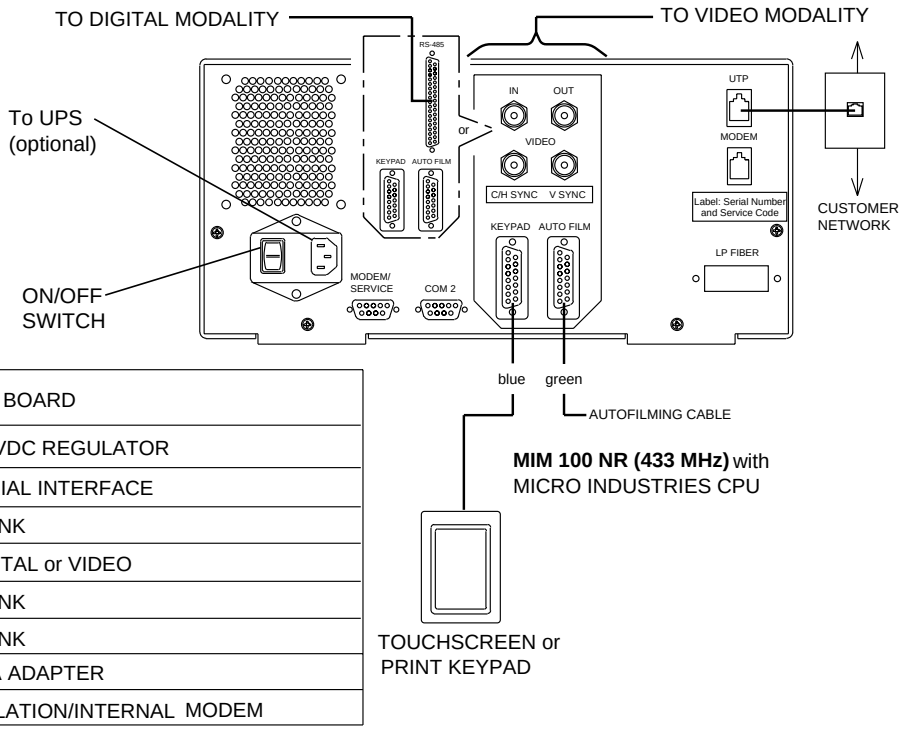
For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

Figure 3–7 MIM 200, 2.4 GHz - MODALITY SERVER CABLES



SLOT	BOARD
1	CABLE, COM 10, 11
2	INTERNAL MODEM or NETWORK ISOLATION
3	SERIAL INTERFACE
4	INPUT 1: DIGITAL or VIDEO
5	VGA PORT
6	INPUT 2: DIGITAL or VIDEO
7	BLANK

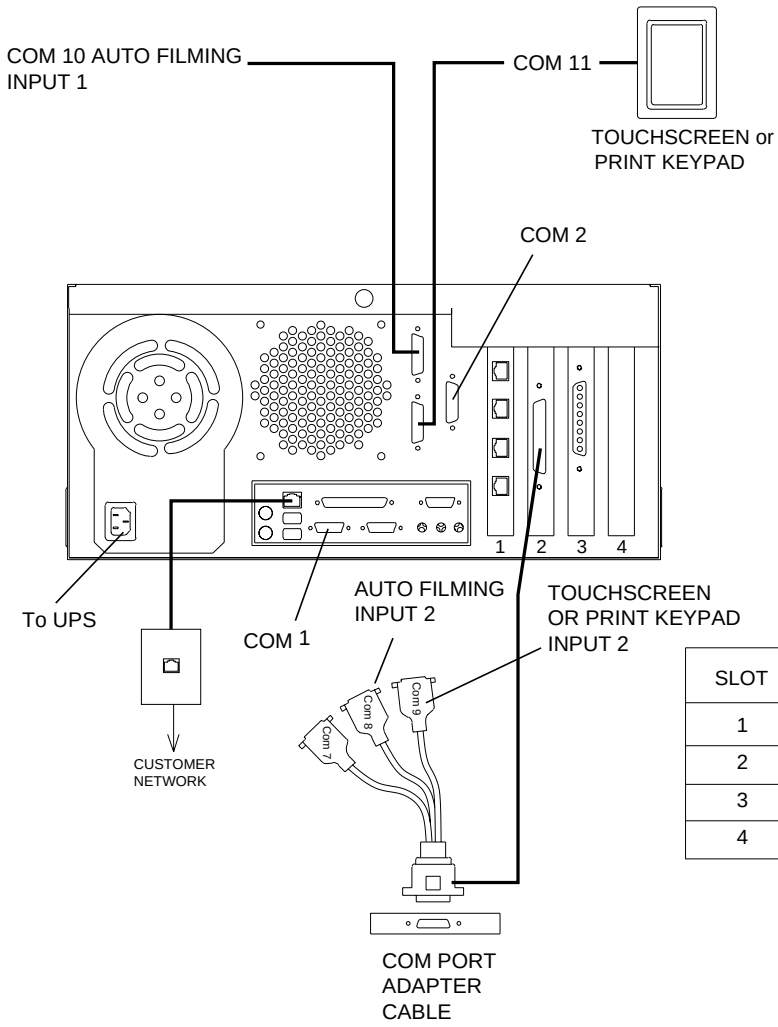
Figure 3–8 MIM 100 - MODALITY SERVER CABLES



SLOT	BOARD
1	3.3 VDC REGULATOR
2	SERIAL INTERFACE
3	BLANK
4	DIGITAL or VIDEO
5	BLANK
6	BLANK
7	VGA ADAPTER
8	ISOLATION/INTERNAL MODEM

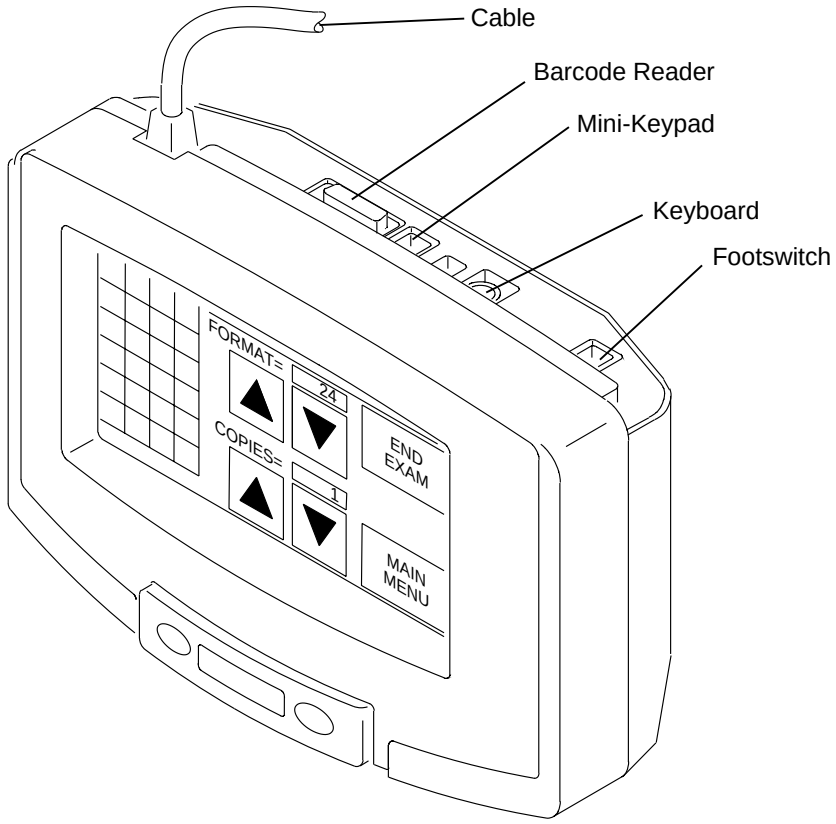
H180_0088DCA
H180_0088DC

Figure 3–9 MIM 100 1.2 GHz WITH 2 MODALITY CONNECTIONS



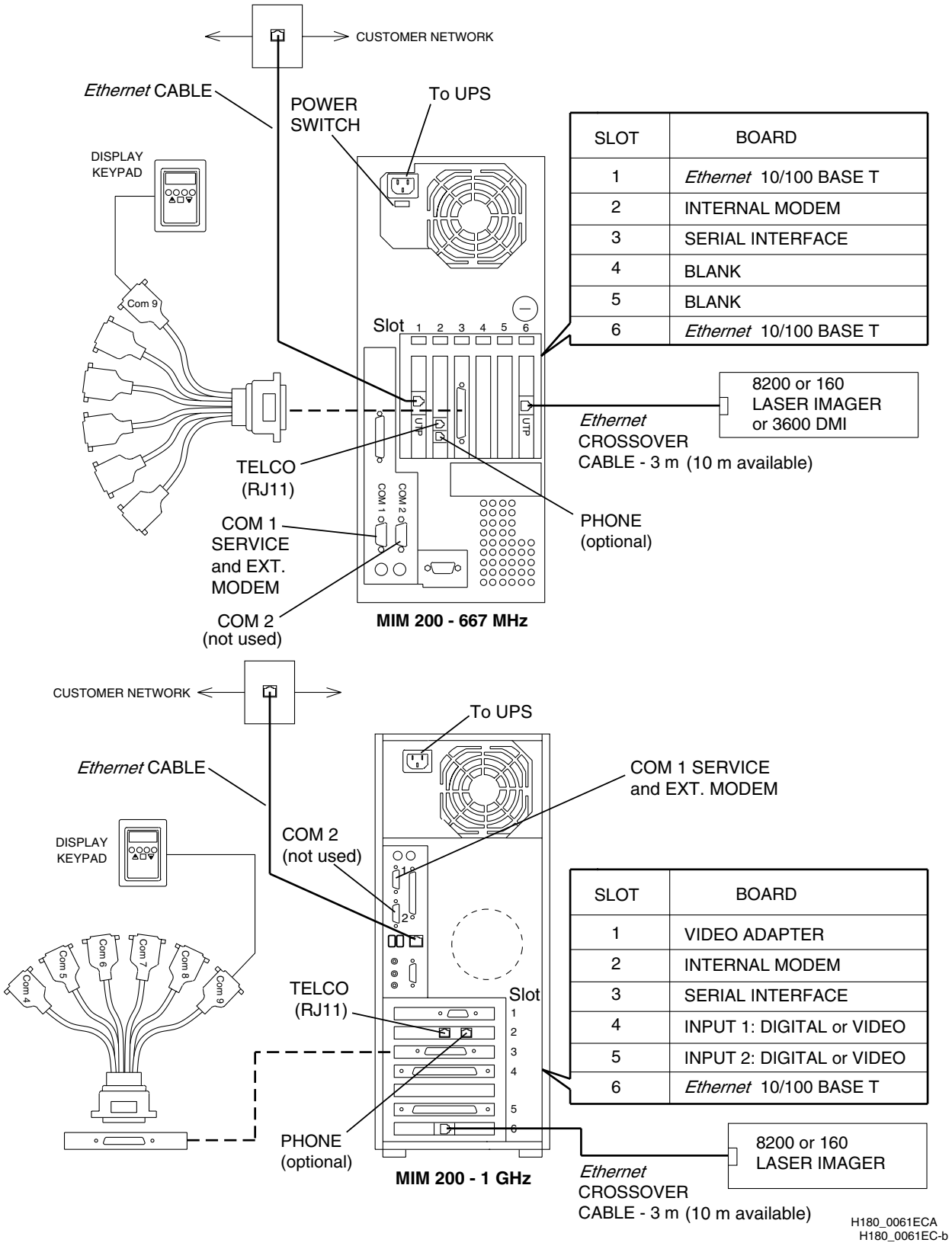
SLOT	BOARD
1	ISOLATION
2	BOARD - 422
3	INPUT 1: VIDEO or DIGITAL
4	INPUT 2: VIDEO or DIGITAL

Figure 3–10 TOUCHSCREEN KEYPAD - CABLES



H180_0117HCA
H180_0117HC

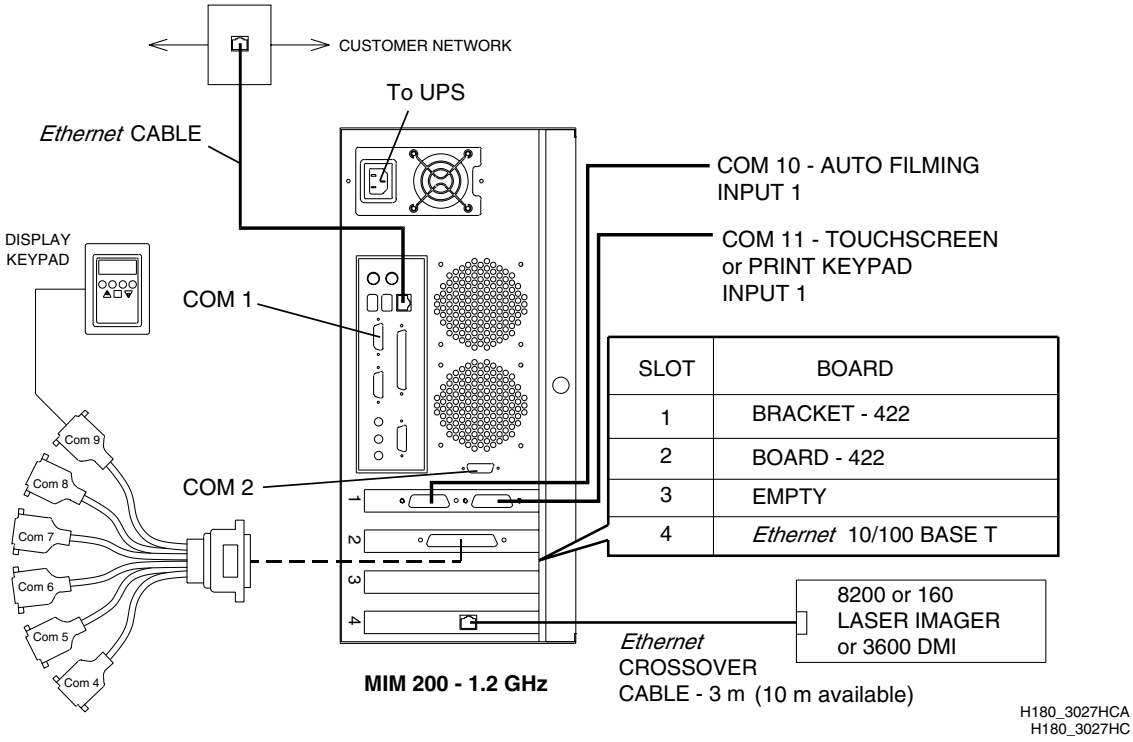
Figure 3–11 MIM 200 - PRINT SERVER, *Ethernet* OUTPUT CABLE



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

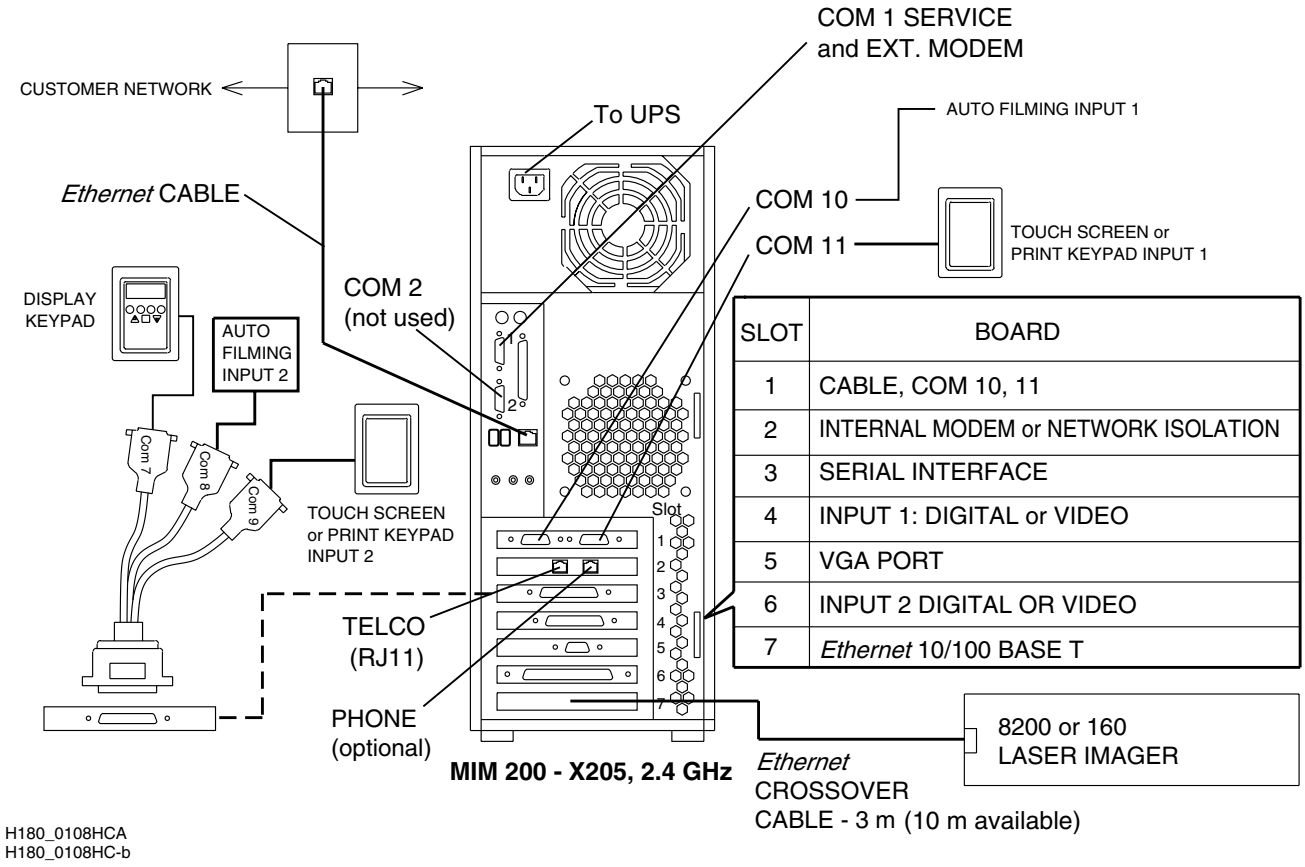
Figure 3–12 MIM 200, 1.2 GHz - PRINT SERVER, *Ethernet* OUTPUT CABLE



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

Figure 3–13 MIM 200 X205, 2.4 GHz - COMBO BOX, Dual Input, *Ethernet* OUTPUT CABLE

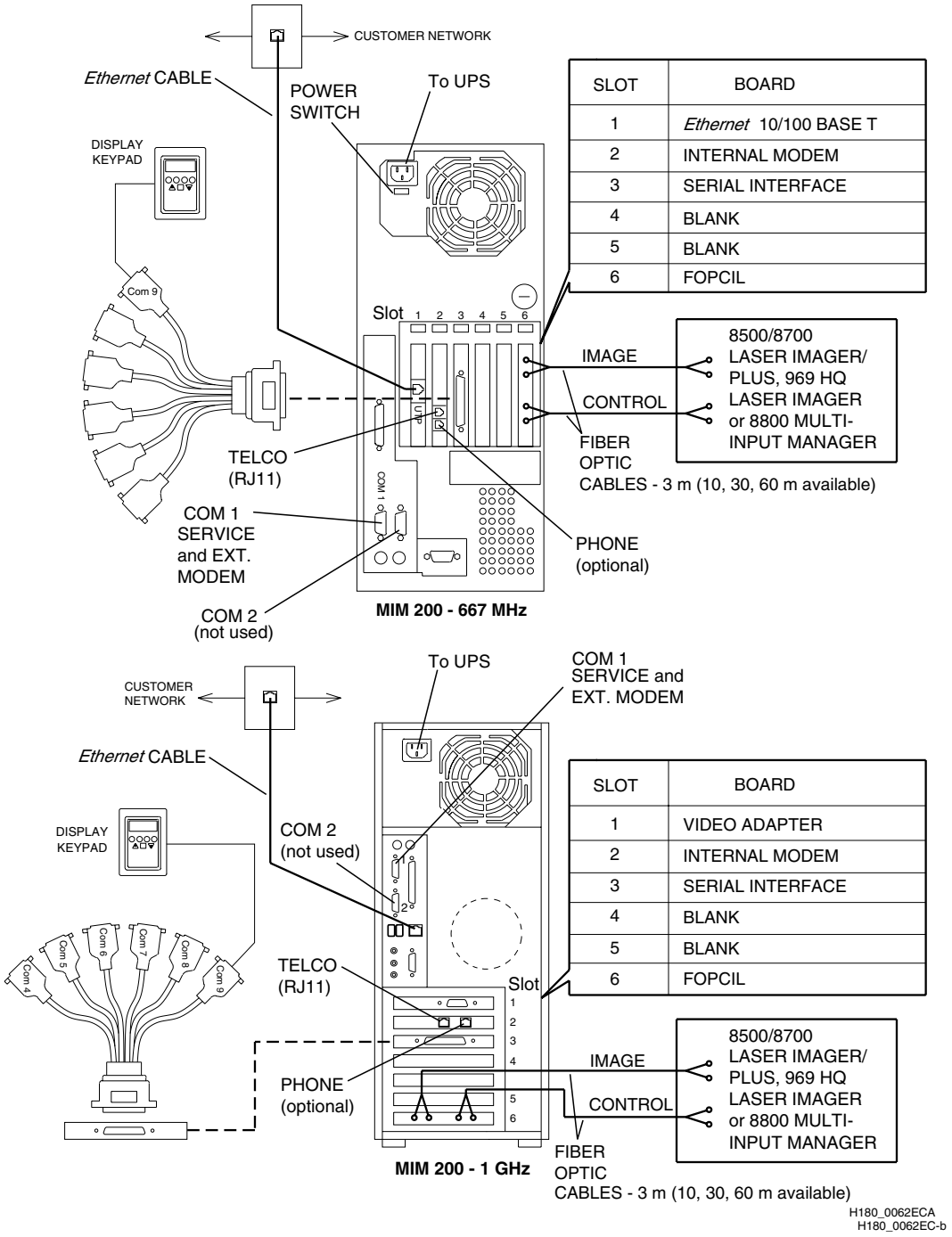


SLOT	BOARD
1	CABLE, COM 10, 11
2	INTERNAL MODEM or NETWORK ISOLATION
3	SERIAL INTERFACE
4	INPUT 1: DIGITAL or VIDEO
5	VGA PORT
6	INPUT 2 DIGITAL OR VIDEO
7	*Ethernet* 10/100 BASE T

Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

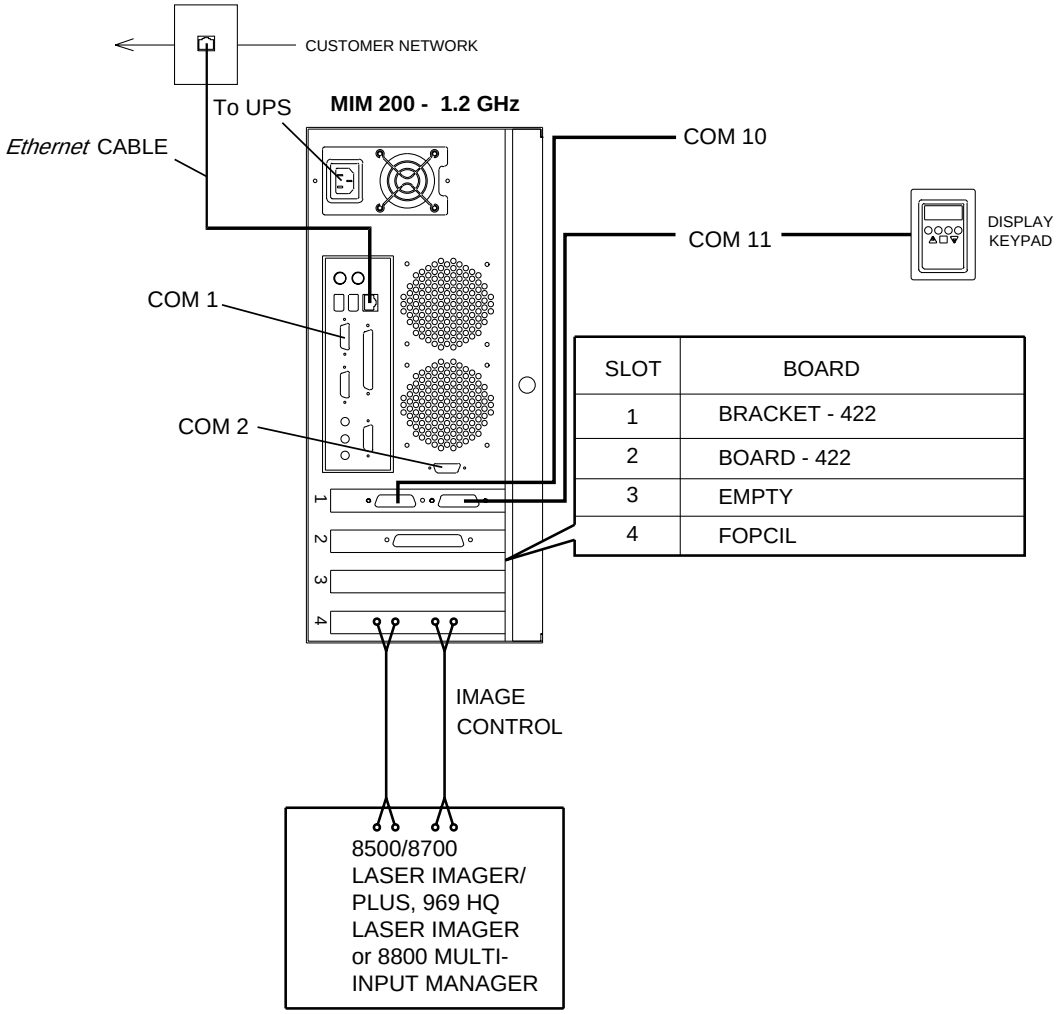
Figure 3–14 MIM 200, X200, 1 GHz - PRINT SERVER, FIBER OPTIC (FOPCIL) OUTPUT CABLES



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

Figure 3–15 MIM 200, 1.2 GHz - PRINT SERVER, FIBER OPTIC (FOPCIL) OUTPUT CABLES

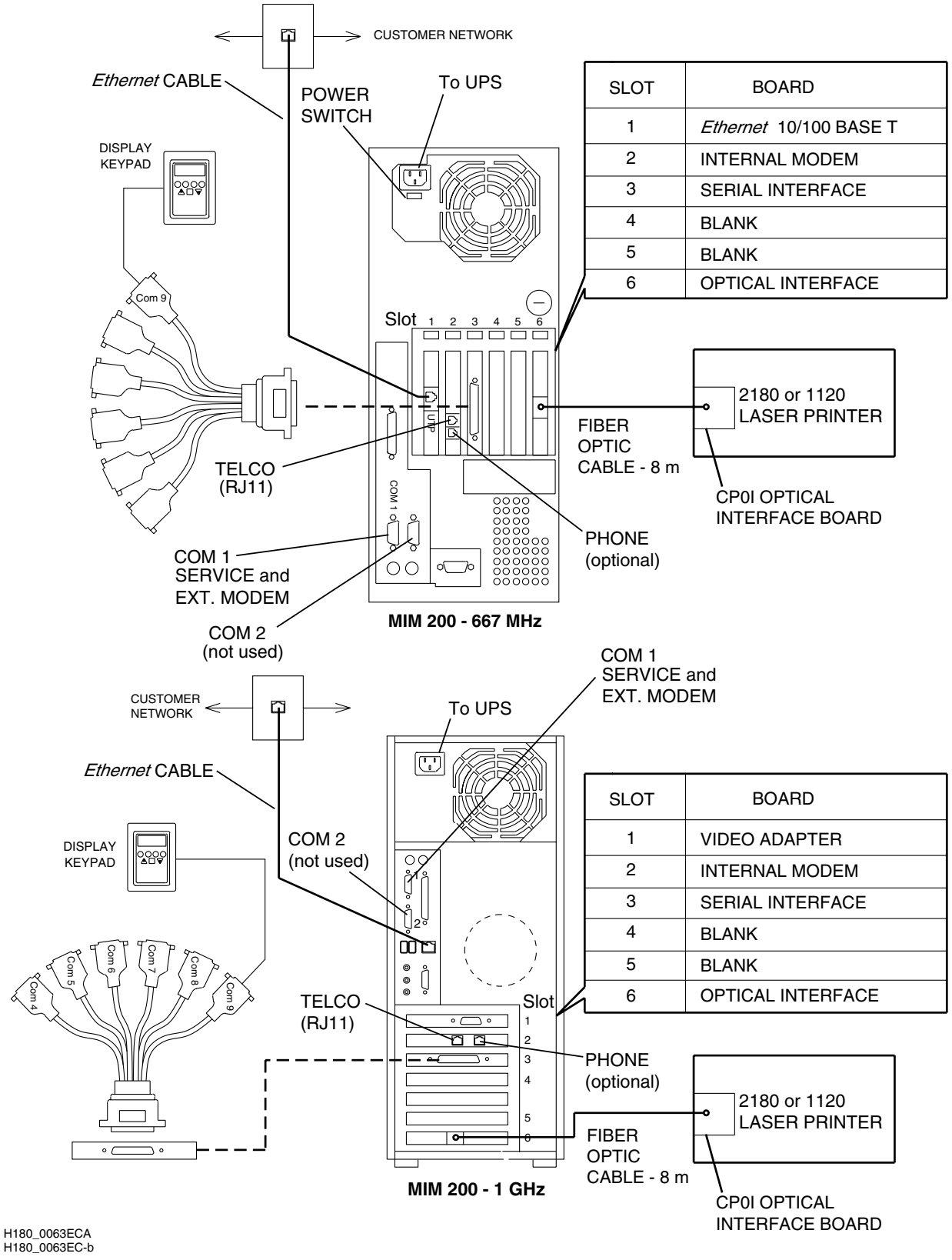


H180_3028DCA
H180_3028DC

Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

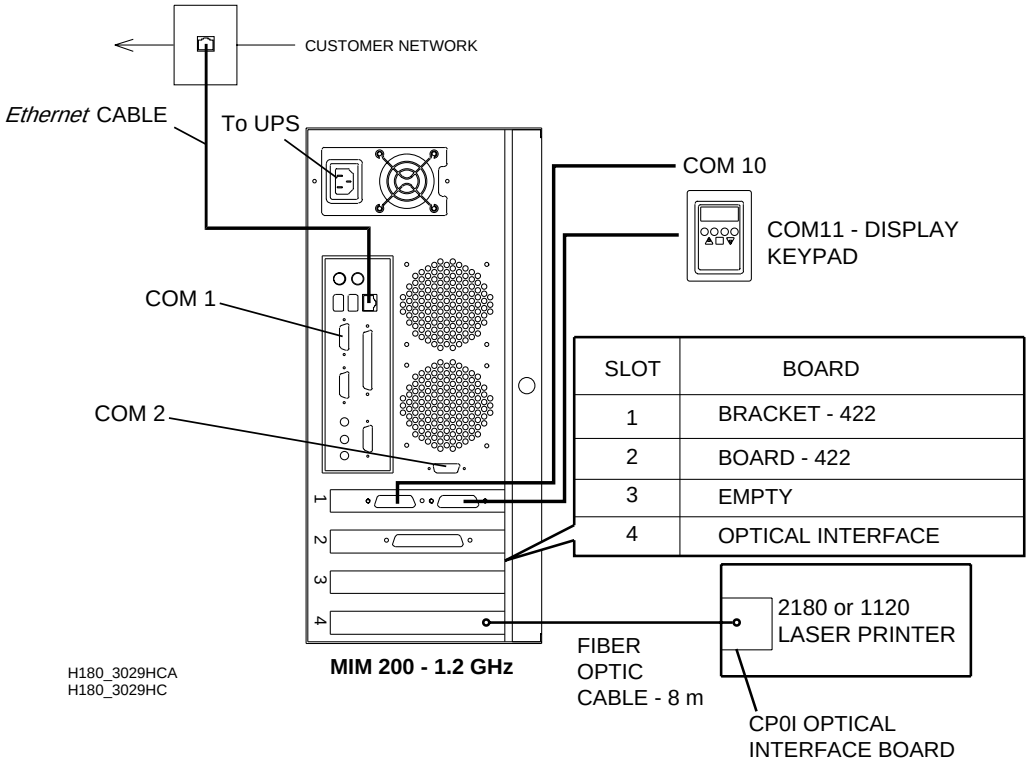
Figure 3–16 MIM 200 - PRINT SERVER, FIBER OPTIC (CPOI) OUTPUT CABLE



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

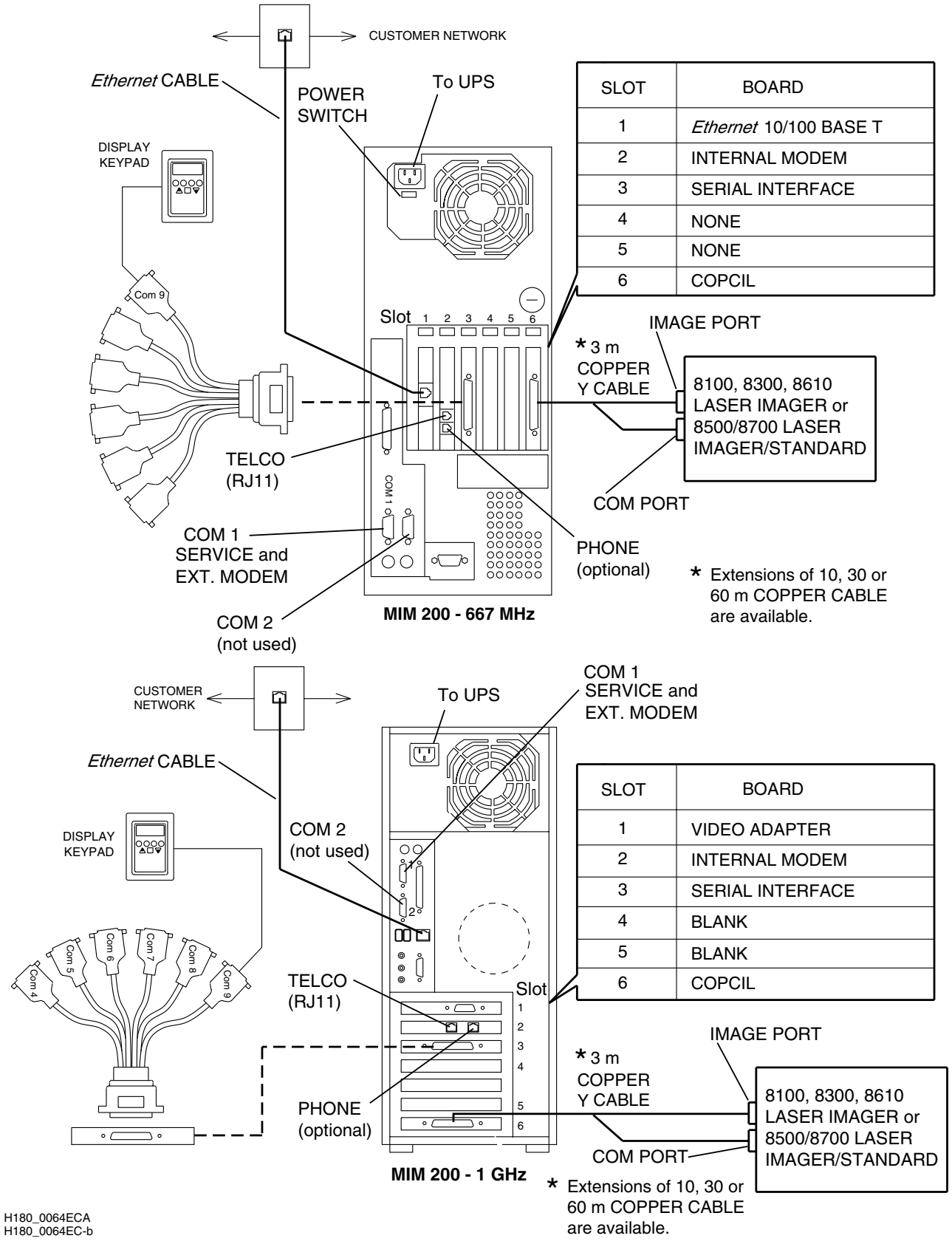
Figure 3–17 MIM 200 1.2 GHz - PRINT SERVER, FIBER OPTIC (CPOI) OUTPUT CABLE



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

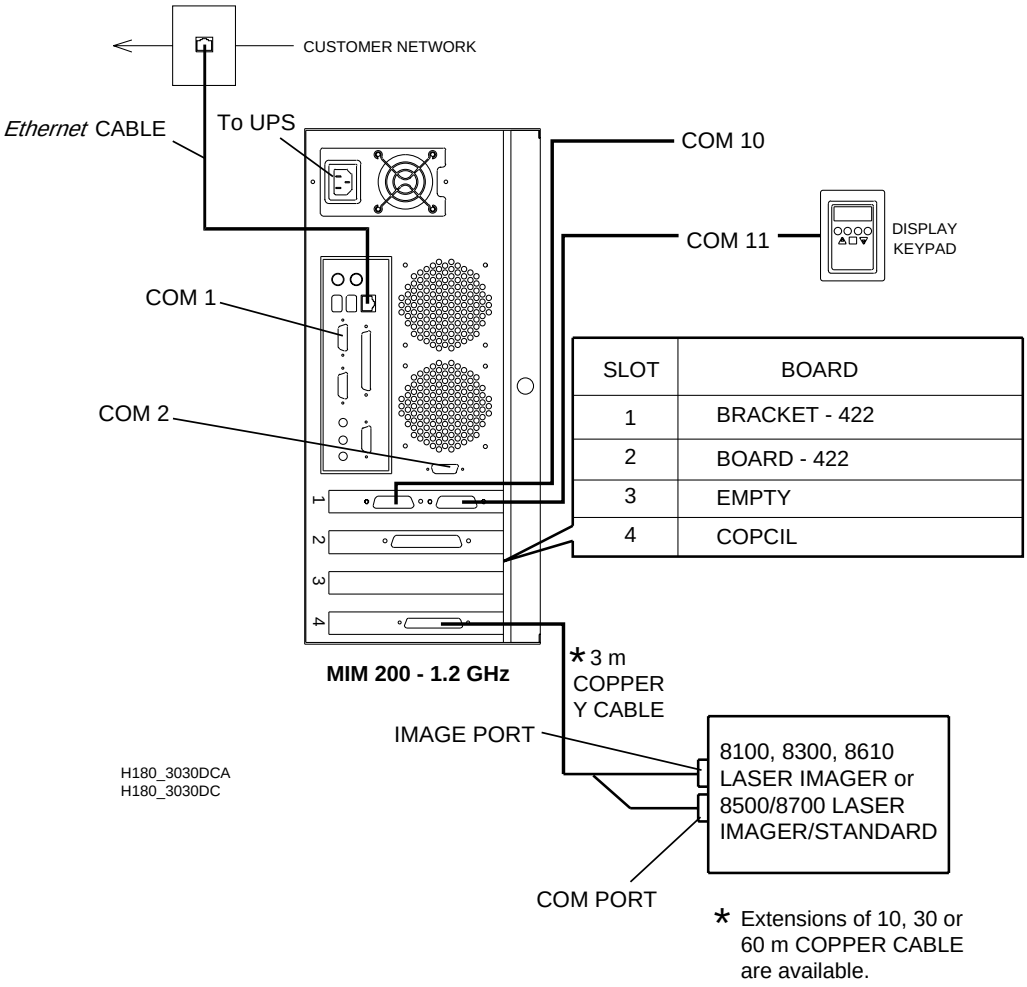
Figure 3–18 MIM 200 - PRINT SERVER, COPPER (COPCIL) OUTPUT CABLE



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

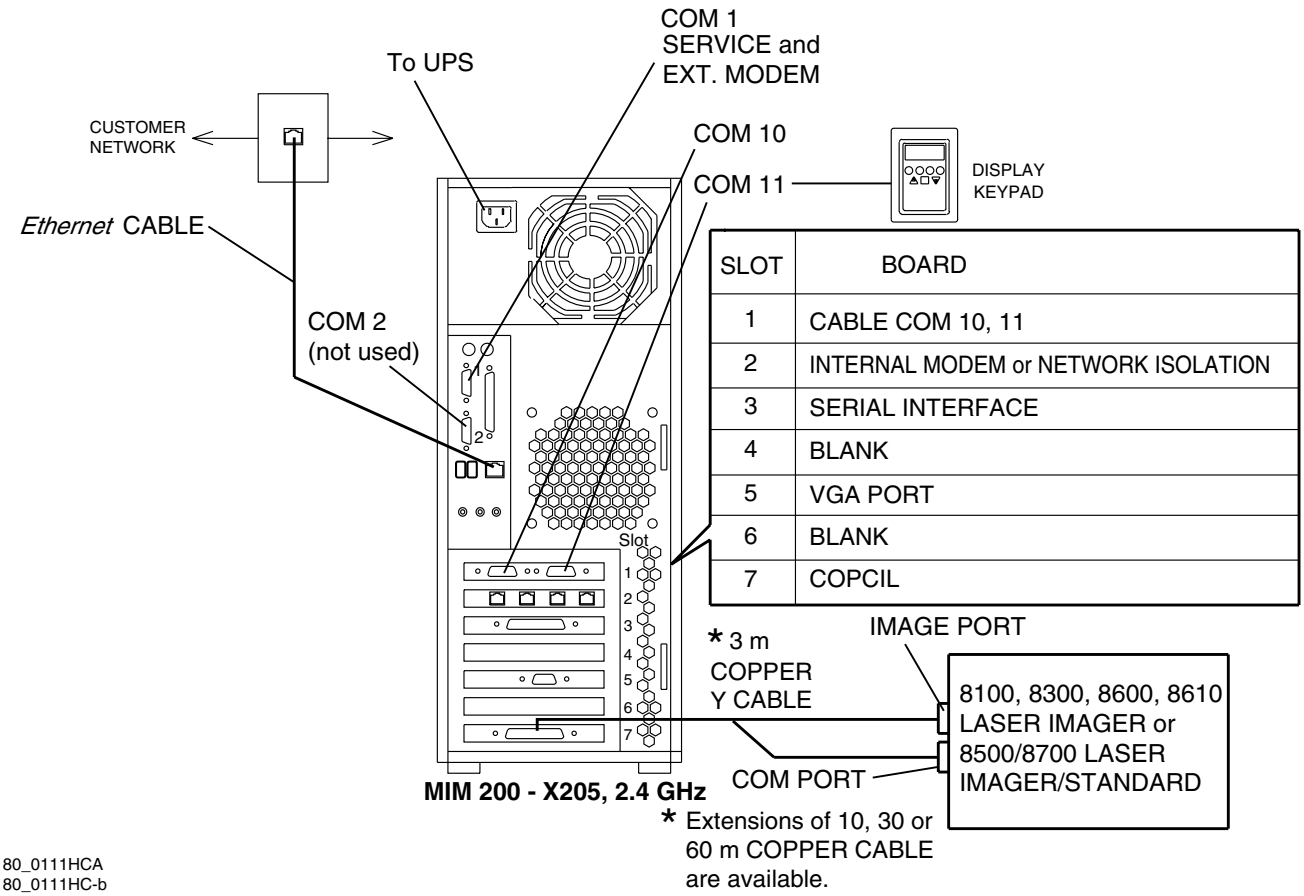
Figure 3–19 MIM 200 1.2 GHz - PRINT SERVER, COPPER (COPCIL) OUTPUT CABLE



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

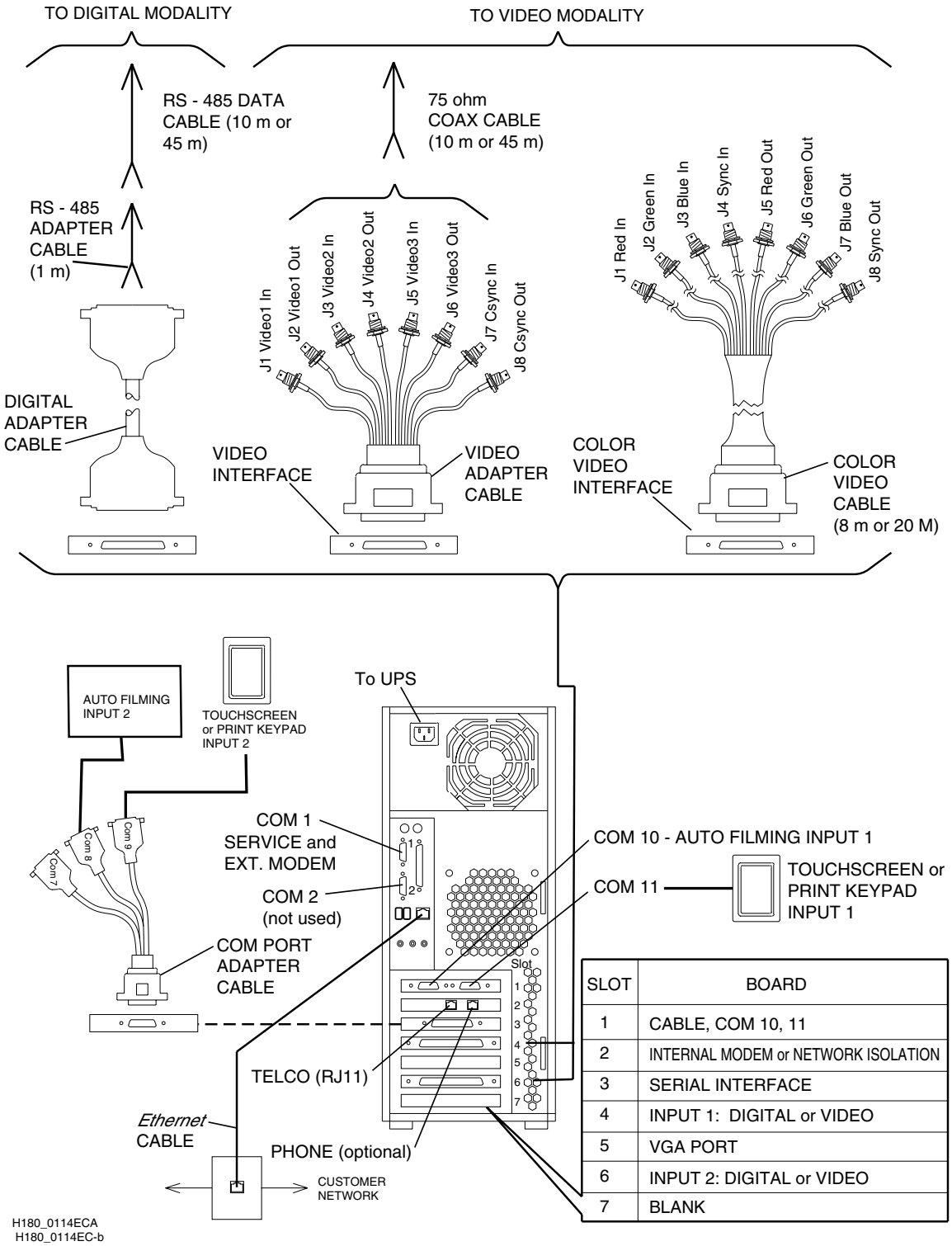
Figure 3–20 MIM 200 X205, 2.4 GHz - PRINT SERVER, COPPER (COPCIL) OUTPUT CABLE



Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

Figure 3–21 CABLES for 25 PS

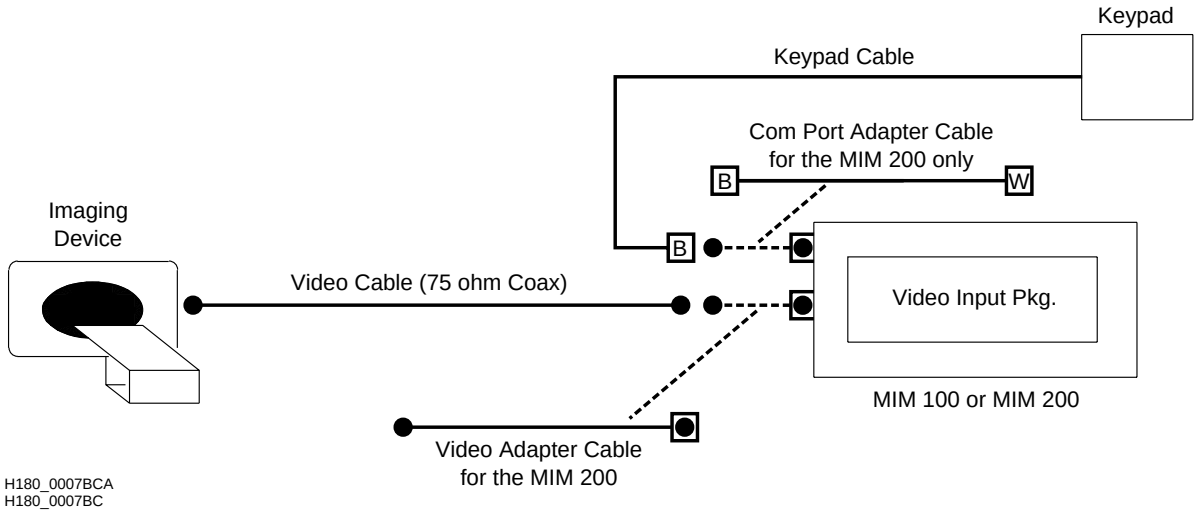


SLOT	BOARD
1	CABLE, COM 10, 11
2	INTERNAL MODEM or NETWORK ISOLATION
3	SERIAL INTERFACE
4	INPUT 1: DIGITAL or VIDEO
5	VGA PORT
6	INPUT 2: DIGITAL or VIDEO
7	BLANK

Note

For information on CABLES to connect the optional EXTERNAL MODEM, see "Installing an EXTERNALMODEM" on Page 3–38

Figure 3–22 MODALITY SERVERS: KEYPAD CABLES for Video Mode



Important

The CABLES in the figure are for each installed channel of a MIM 200.

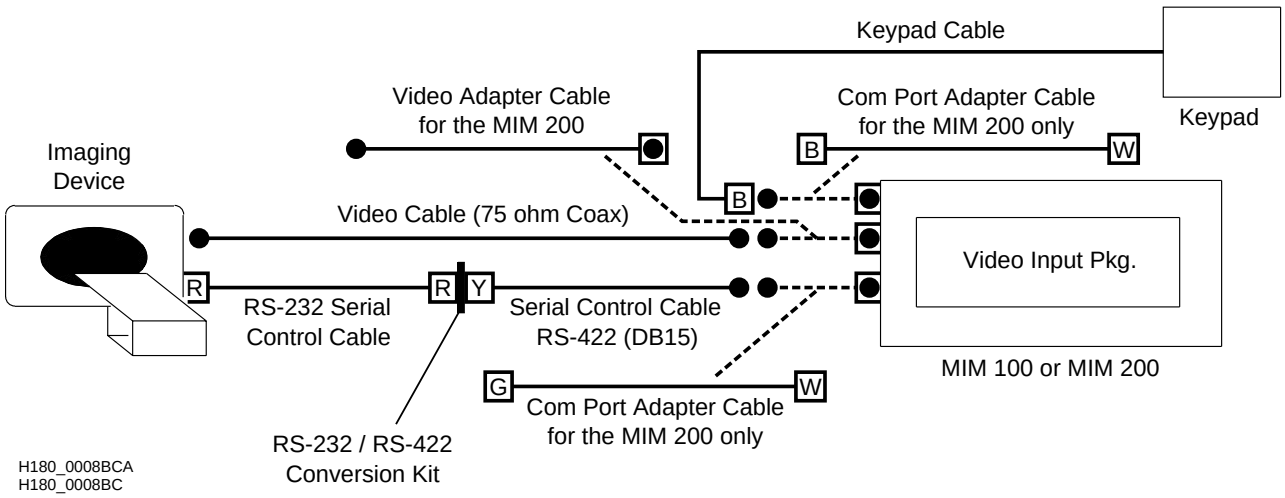
Table 3–5 CABLES for Video Mode with KEYPAD

CABLE Description	Length	Catalog Number	Notes
VIDEO CABLE (75 ohm Coax)	10 m (32.8 ft.)	839 7747	---
	45 m (150 ft.)	160 9791	The CONNECTORS are **not** installed.
VIDEO ADAPTER CABLE for the MIM 200	20.3 cm (8 in.)	---	Included with the MIM 200 only.
RGB VIDEO CABLE. Used in place of VIDEO CABLE and VIDEO ADAPTER CABLE in RGB installations. Not shown in figure.	8 m (26 ft.)		---
	20 m (65 ft.)		---
	2 m (6.6 ft.)		Used with MIM 100 only.
KEYPAD CABLE	3 m (9.8 ft.)	---	Included with the KEYPAD.
KEYPAD Extension CABLE: Extends the KEYPAD CABLE to a length of **either** 15 m (49.2 ft) **or** 45 m (147.6 ft). KEYPAD Extension CABLE is not shown in the figure.	12 m (39.4 ft.)	881 5144	Both ends of the CABLE have blue labels. One end is labeled “Keypad” and the other end is labeled “Rear Panel.”
	42 m (137.8 ft.)	848 3539	
KEYPAD and Autofilming COMM PORT ADAPTER CABLE	1 m (3.2 ft.)	---	Included with the MIM 200. Odd numbered COMM PORT CONNECTORS are for KEYPADS. Even numbered CONNECTORS are for Autofilming connections.

Table 3–6 Color Key for CONNECTORS in Figures 3-16 and 3-17

Symbol	Label	Notes
[2]	None	Video
B	Blue	KEYPAD CABLES are blue.
G	Green	Autofilming CABLES are green.
R	Red	The RS-232 SERIAL CONTROL CABLE supplied by Kodak has red labels.
Y	Yellow	
W	White	The end of the RS-485 DATA CABLE that connects directly to the MIM has a white label.

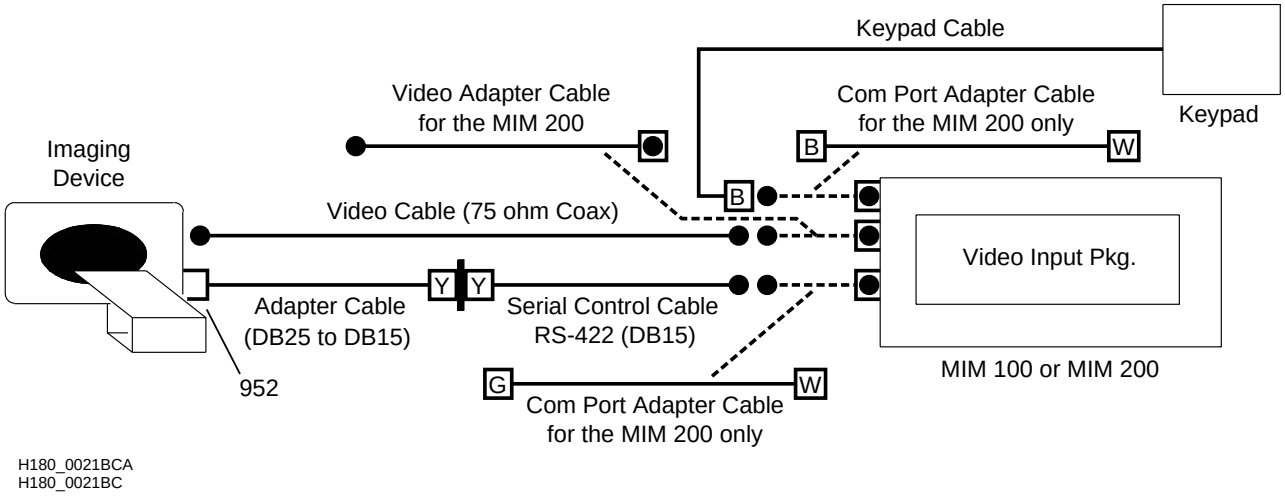
Figure 3–23 MODALITY SERVERS: Autofilming CABLES for Video Mode



This view shows RS-232 converted to RS-422.

Important

The CABLES in both figures are for each installed channel of a MIM 200. A MIM 200 can have 2 input devices.

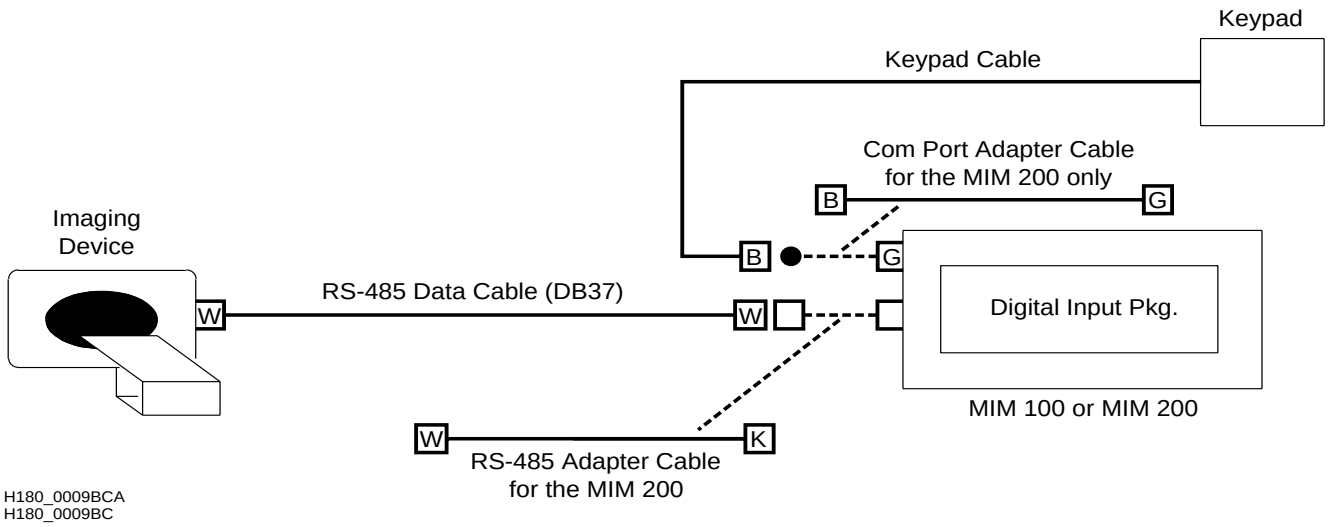


This view shows an RS-422 connection.

Table 3–7 CABLES for Video Autofilming

CABLE Description	Length	Catalog Number	Notes
VIDEO CABLE (75 ohm Coax)	10 m (32.8 ft)	839 7747	---
	45 m (147.6 ft)	160 9791	The CONNECTORS are **not** installed.
VIDEO ADAPTER CABLE for MIM 200	20.3 cm (8 in.)	---	Included with the MIM 200.
RGB VIDEO CABLE. Used in place of VIDEO CABLE and VIDEO ADAPTER CABLE in RGB installations. Not shown in the figure.	8 m (26 ft.)		---
	20 m (65 ft.)		---
	2 m (6.6 ft.)		Use with MIM 100 only.
RS-232/RS-422 Conversion Kit	---	121 2018	DB25 to DB15
RS-232 SERIAL CONTROL CABLE	1.8 m (6 ft)	---	Included with Conversion Kit.
SERIAL CONTROL CABLE RS-422 (DB15)	10 m (32.8 ft)	819 2742	Male end connects to the MIM; Female end connects to MODALITY.
	45 m (147.6 ft)	860 3599	
ADAPTER CABLE (DB25 to DB15)	1.52 m (5 ft)	835 9689	RS-422
KEYPAD CABLE	3 m (9.8 ft)	---	Included with the KEYPAD.
KEYPAD Extension CABLE: Extends the KEYPAD CABLE to a length of **either** 15 m (49.2 ft) **or** 45 m (147.6 ft). The KEYPAD Extension CABLE is not shown in the figure.	12 m (39.4 ft)	881 5144	Both ends of the CABLE have blue labels. One end is labeled “Keypad” and the other end is labeled “Rear Panel”.
	42 m (137.8 ft)	848 3539	
KEYPAD and Autofilming COMM PORT ADAPTER CABLE	1 m (3.2 ft)	---	Included with the MIM 200. Odd numbered COMM PORT CONNECTORS are for KEYPADS and even numbered CONNECTORS are for Autofilming connections.

Figure 3–24 MODALITY SERVERS: KEYPAD CABLES for Digital Mode



Important

The CABLES in the figure are for each installed channel of a MIM 200.

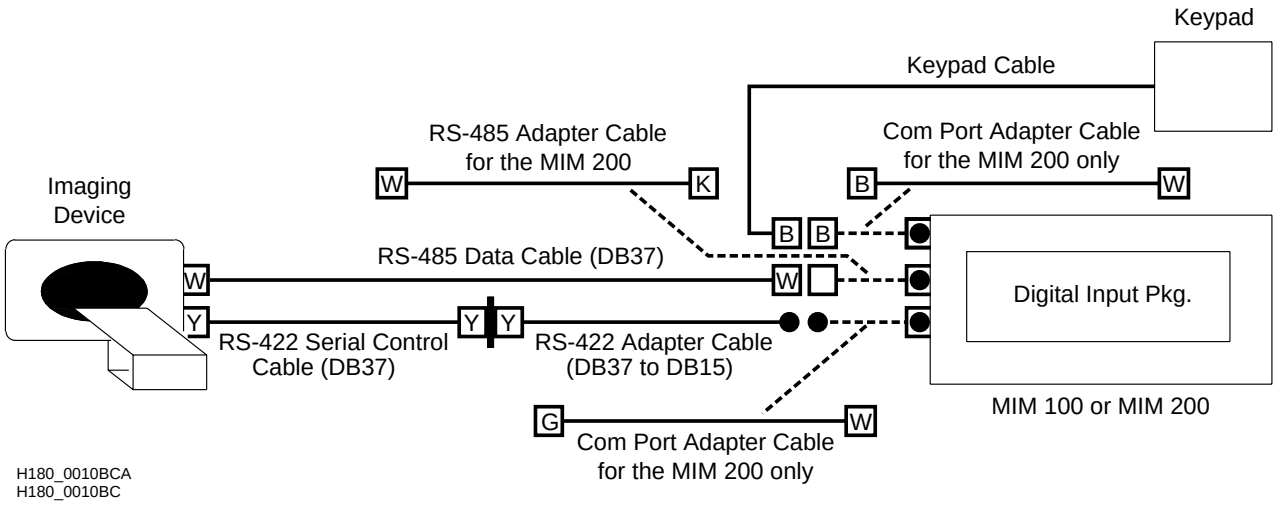
Table 3–8 CABLES for Digital Mode with KEYPAD

CABLE Description	Length	Catalog Number	Notes
RS-485 DATA CABLE (DB37)	10 m (32.8 ft)	197 2330	Both ends are male. F/F gender changer included.
	45 m (147.6 ft)	877 7021	The CONNECTORS are **not** installed.Both ends are male.F/F gender changer included.
RS-485 ADAPTER CABLE for the MIM 200	1 m (3.2 ft)	---	Included with the MIM 200.
KEYPAD CABLE	3 m (9.8 ft)	---	Included with the KEYPAD.
KEYPAD Extension CABLE: Extends the KEYPAD CABLE to a length of **either** 15 m (49.2 ft) **or** 45 m (147.6 ft). The KEYPAD Extension CABLE is not shown in the figure.	12 m (39.4 ft)	881 5144	Both ends of the CABLE have blue labels. One end is labeled “Keypad” and the other is labeled “Rear Panel.”
	42 m (137.8 ft)	848 3539	
KEYPAD and Autofilming COMM PORT ADAPTER CABLE	1 m (3.2 ft)	---	Included with the MIM 200. Odd numbered COMM PORT CONNECTORS are for KEYPADS and even numbered CONNECTORS are for Autofilming.

Table 3–9 Color Key for the CONNECTORS in Figures 3-18 through 3-21.

Symbol	Label	Notes
K	BlacK	The CONNECTOR of the RS-485 ADAPTER CABLE that connects to the MIM 200 has a black label.
B	Blue	---
G	Green	---
R	Red	Only the RS-232 CABLE that is supplied by Kodak has red labels.
W	White	The end of the RS-485 DATA CABLE that connects directly to the MIM has a white label.
Y	Yellow	---

Figure 3–25 MODALITY SERVERS: Autofilming CABLES for Digital Mode - RS-422 Serial Control



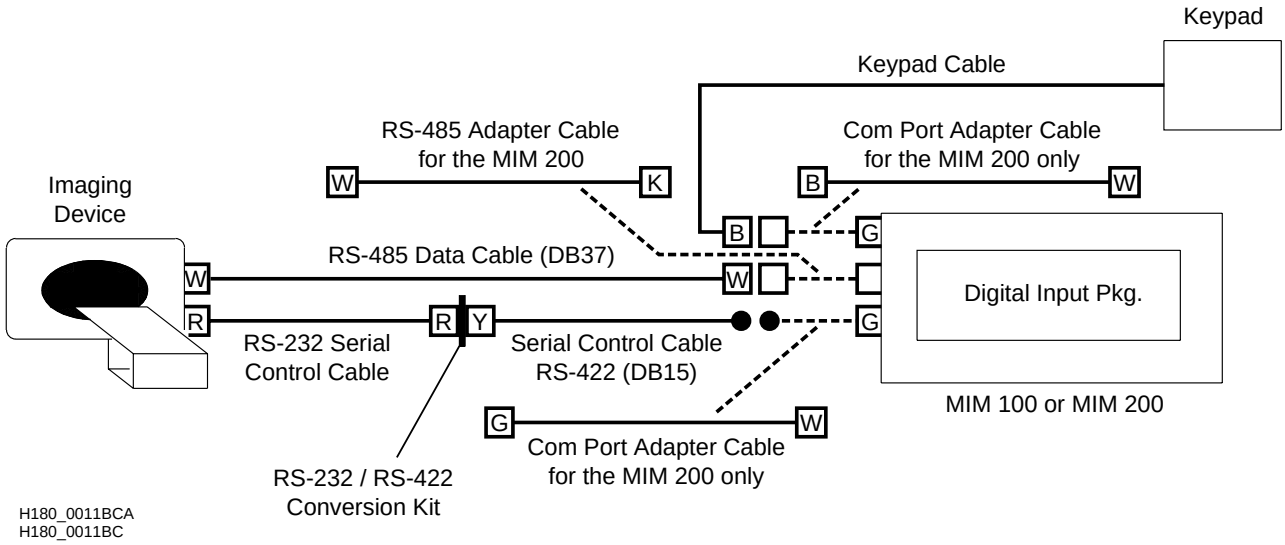
Important

The CABLES in the figure are for each installed channel of a MIM 200.

Table 3–10 CABLES for Digital Autofilming: RS-422 Serial Control

CABLE Description	Length	Catalog Number	Notes
RS-485 DATA CABLE (DB37)	10 m (32.8 ft)	197 2330	Both ends are male. F/F gender changer included.
	45 m (147.6 ft)	877 7021	The CONNECTORS are not installed. Both ends are male. F/F gender changer included.
RS-485 ADAPTER CABLE for the MIM 200	1 m (3.2 ft)	---	Included with the MIM 200.
RS-422 SERIAL CONTROL CABLE (DB37)	10 m (32.8 ft)	842 9391	Both ends are male. F/F gender changer included.
	45 m (147.6 ft)	197 0862	The CONNECTORS are not installed. Both ends are male. F/F gender changer included.
RS-422 ADAPTER CABLE (DB37 to DB15)	1 m (3.2 ft)	814 5732	---
KEYPAD CABLE	3 m (9.8 ft)	---	Included with the KEYPAD.
KEYPAD Extension CABLE: Extends the KEYPAD CABLE to a length of **either** 15 m (49.2 ft) **or** 45 m (147.6 ft). The KEYPAD Extension CABLE is not shown in the figure.	12 m (39.4 ft)	881 5144	Both ends of the CABLE have blue labels. One end is labeled “Keypad” and the other end is labeled “Rear Panel.”
	42 m (137.8 ft)	848 3539	
KEYPAD and Autofilming COMM PORT ADAPTER CABLE	1 m (3.2 ft)	---	Included with the MIM 200. Odd numbered COMM PORT CONNECTORS are for KEYPADS and even numbered CONNECTORS are for Autofilming.

Figure 3–26 MODALITY SERVERS: Autofilming CABLES for Digital Mode - RS-232 Converted to RS-422 Serial Control



Important

The CABLES in the figure are for each installed channel of a MIM 200.

Table 3–11 CABLES for Digital Autofilming: RS-232 Converted to RS-422

CABLE Description	Length	Catalog Number	Notes
RS-485 DATA CABLE (DB37)	10 m (32.8 ft)	197 2330	Both ends are male. F/F gender changer included.
	45 m (147.6 ft)	877 7021	The CONNECTORS are not installed. Both ends are male. F/F gender changer included.
RS-485 ADAPTER CABLE for the MIM 200	1 m (3.2 ft)	---	Included with the MIM 200.
RS-232/RS-422 Conversion Kit	---	121 2018	DB25 to DB15
RS-232 SERIAL CONTROL CABLE	1.8 m (6 ft)	---	Included with Conversion Kit.
SERIAL CONTROL CABLE RS-422 (DB15)	10 m (32.8 ft)	819 2742	Male end connects to the MIM; Female end connects to MODALITY.
	45 m (147.6 ft)	860 3599	
KEYPAD CABLE	3 m (9.8 ft)	---	Included with the KEYPAD.
KEYPAD Extension CABLE: Extends the KEYPAD CABLE to a length of **either** 15 m (49.2 ft) **or** 45 m (147.6 ft). The KEYPAD Extension CABLE is not in figure.	12 m (39.4 ft)	881 5144	Both ends of the CABLE have blue labels. One end is labeled “Keypad” and the other end is labeled “Rear Panel.”
	42 m (137.8 ft)	848 3539	
KEYPAD and Autofilming COMM PORT ADAPTER CABLE	1 m (3.2 ft)	---	Included with the MIM 200. Odd numbered COMM PORT CONNECTORS are for KEYPADS and even numbered CONNECTORS are for Autofilming connections.

Figure 3–27 *Siemens* Imaging Device: FIBER OPTIC CABLE with *Hirschmann* CONNECTORS

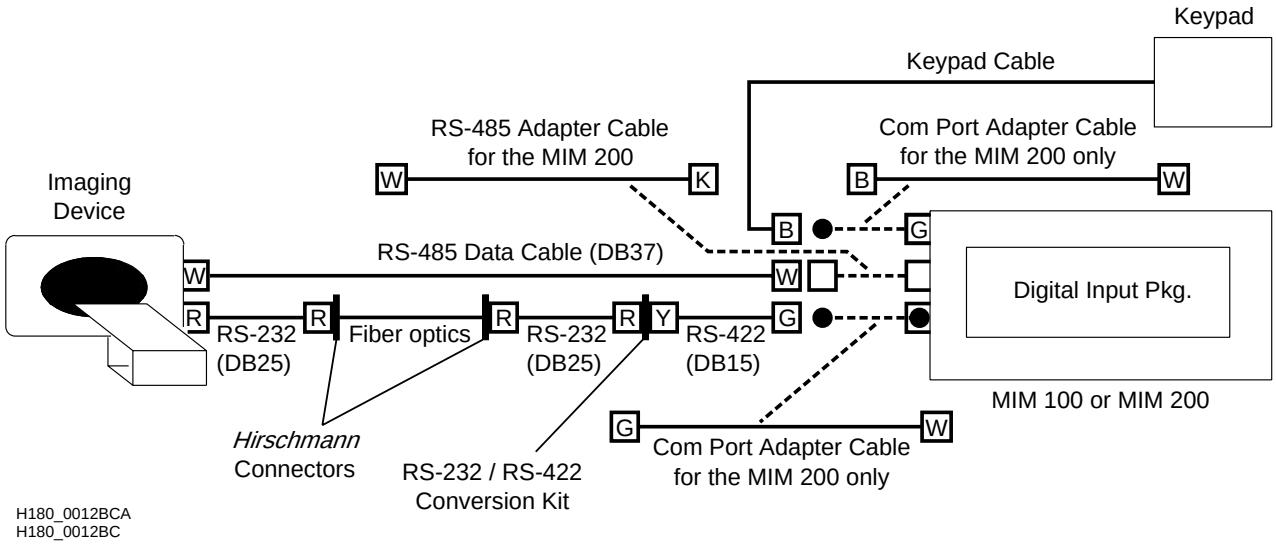
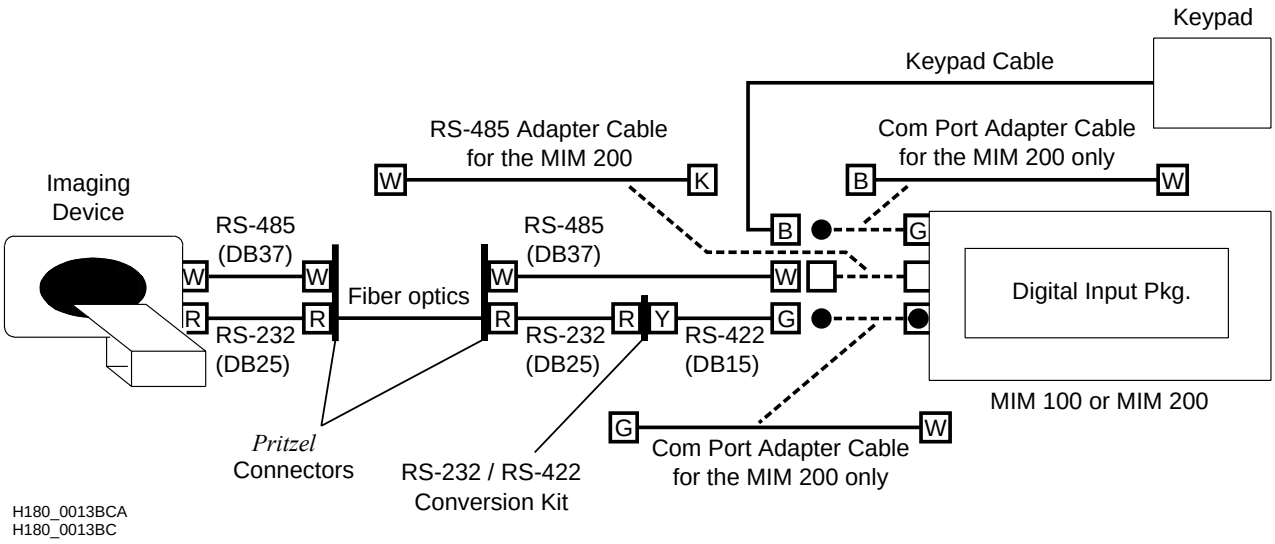


Figure 3–28 *Siemens* Imaging Device: FIBER OPTIC CABLE with *Pritzel* CONNECTORS



Important

For Figures 3–27 and 3–28: The CABLES are for each installed channel of a MIM 200.

Important

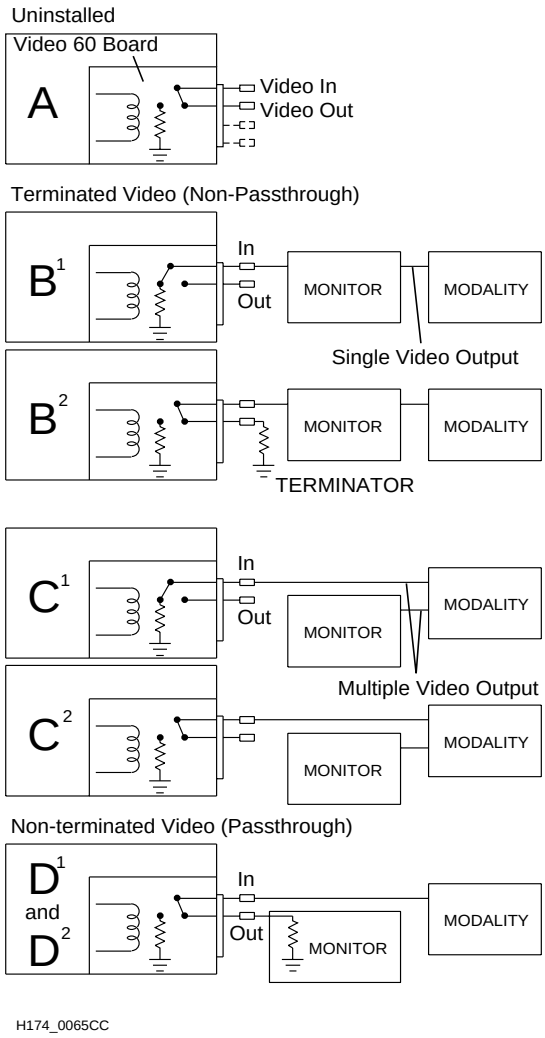
For Figures 3–27 and 3–28: The RS-232/RS-422 CONVERTER 2E4415 contains 2 DIP SWITCHES. To locate the DIP SWITCHES, remove the COVER from the side of the CONVERTER that has the hole for access.

- For the *Hirschmann* CONNECTORS, the 2 DIP SWITCHES must be set to the ON position. This provides power to the *Hirschmann* CONNECTOR.
- For some versions of the *Pritzel* CONNECTOR, the 2 DIP SWITCHES might have to be reset.

Table 3–12 *Siemens* Imaging Device: CABLES for Digital Autofilming

CABLE Description	Length	Catalog Number	Notes
RS-485 DATA CABLE (DB37)	10 m (32.8 ft)	197 2330	Both ends are male. F/F gender changer included.
	45 m (147.6 ft)	877 7021	The CONNECTORS are not installed.Both ends are male. F/F gender changer included.
RS-485 ADAPTER CABLE for the MIM 200	1 m (3.2 ft)	---	Included with the MIM 200.
RS-232/RS-422 Conversion Kit	---	121 2018	DB25 to DB15
RS-232 SERIAL CONTROL CABLE	1.8 m (6 ft)	---	Included with Conversion Kit.
SERIAL CONTROL CABLE RS-422 (DB15)	10 m (32.8 ft)	819 2742	Male end connects to the MIM; Female end connects to MODALITY.
	45 m (147.6 ft)	860 3599	
KEYPAD CABLE	3 m (9.8 ft)	---	Included with the KEYPAD.
KEYPAD Extension CABLE: Extends the KEYPAD CABLE to a length of **either** 15 m (49.2 ft) **or** 45 m (147.6 ft). The KEYPAD Extension CABLE is not in the figure.	12 m (39.4 ft)	881 5144	Both ends of the CABLE have blue labels. One end is labeled “Keypad” and the other end is labeled “Rear Panel.”
	42 m (137.8 ft)	848 3539	
FIBER OPTIC CABLE	variable	---	Not provided by Kodak.
Hirschmann CONNECTOR	---	---	Not provided by Kodak. Use for Fiber optics less than or equal to 30 m (98.4 ft) in length.
Pritzel CONNECTOR	---	---	Not provided by Kodak. Use for Fiber optics greater than 30 m (98.4 ft) in length.
KEYPAD and Autofilming COM PORT ADAPTER CABLE	1 m (3.2 ft)	---	Included with the MIM 200. Odd numbered COMM PORT CONNECTORS are for KEYPADS and even numbered CONNECTORS are for Autofilming connections.

Figure 3–29 Terminating the Video Input for MIM 200 with VIDEO 60 INTERFACE BOARD

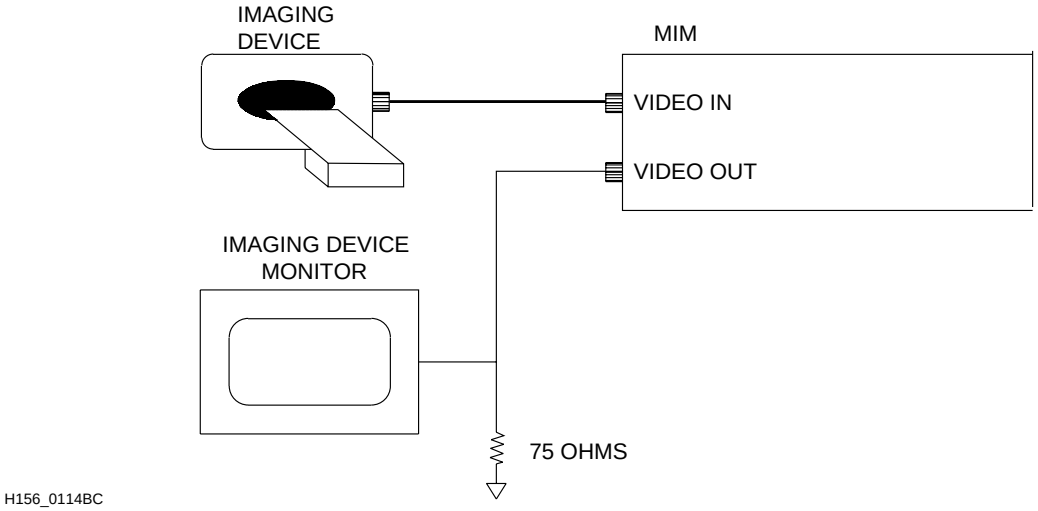


Important

The diagrams indicate various states of the VIDEO 60 INTERFACE BOARD depending on the set up of the MODALITY and MONITOR at the site.

- **A**: Uninstalled MIM 200.
- **B:** Installed MIM 200 with terminated video (non-passthrough) for a MODALITY with a single video output. **The "Terminate Video Input" box for monochrome or boxes for RGB must be enabled before you select [Set Parameters] in the "Video Board Setup" menu.** A 75 Ohm TERMINATOR, which is **not** shipped with the product, **must** be installed when the MIM is de-energized.
  - **B**[1]: Energized
  - **B**[2]: De-energized
- **C**: Installed MIM 200 with terminated video (non-passthrough) for a MODALITY with multiple video outputs:
  - **C**[1]: Energized
  - **C**[2]: De-energized
- **D:** Installed MIM 200 with non-terminated video (passthrough): **Same** for both the energized **and** de-energized states.
  - **D**[1]: Energized
  - **D**[2]: De-energized

Figure 3–30 Video Imaging Device with One Video Output to MONITOR (Non-terminated Passthrough)



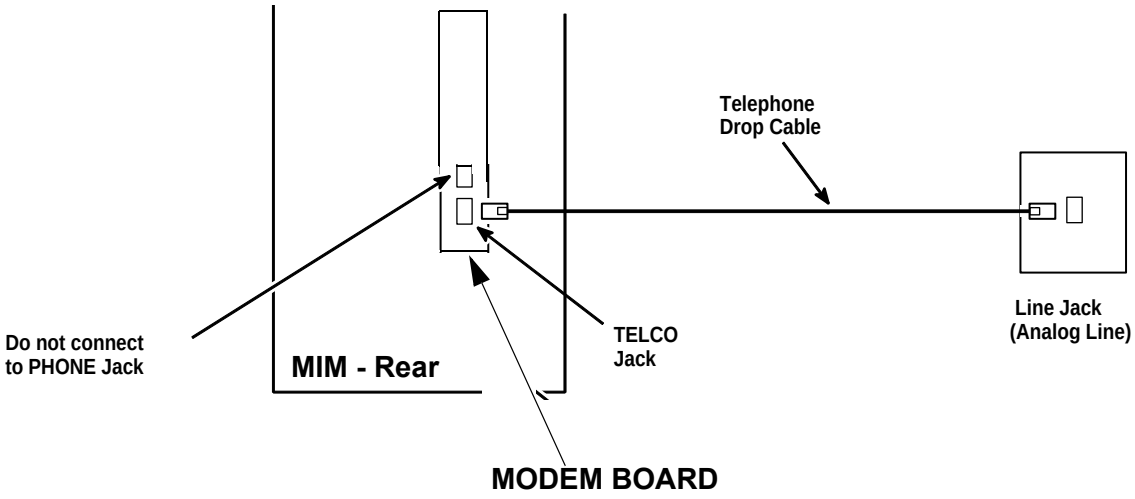
Important

A MIM with a VIDEO 150 or 150LC INTERFACE BOARD must be energized if the MODALITY is in use (active passthrough video) and provides only one video output connection to the MONITOR.

Connecting a Telephone Line to an INTERNAL MODEM

To install a telephone connection for a MIM that includes an INTERNAL MODEM, connect to a telephone line as indicated in Figure 3–31.

Figure 3–31 Connect MODEM BOARD to Telephone Line



Installing an EXTERNALMODEM

An optional EXTERNAL MODEM can be connected to a MIM 200 or 25 PS for remote service access. An analog dial-up telephone line is reqired for the MODEM.

The MODEM requires an AC power source of 100 to 240 volts, 50 or 60 Hz.

Parts

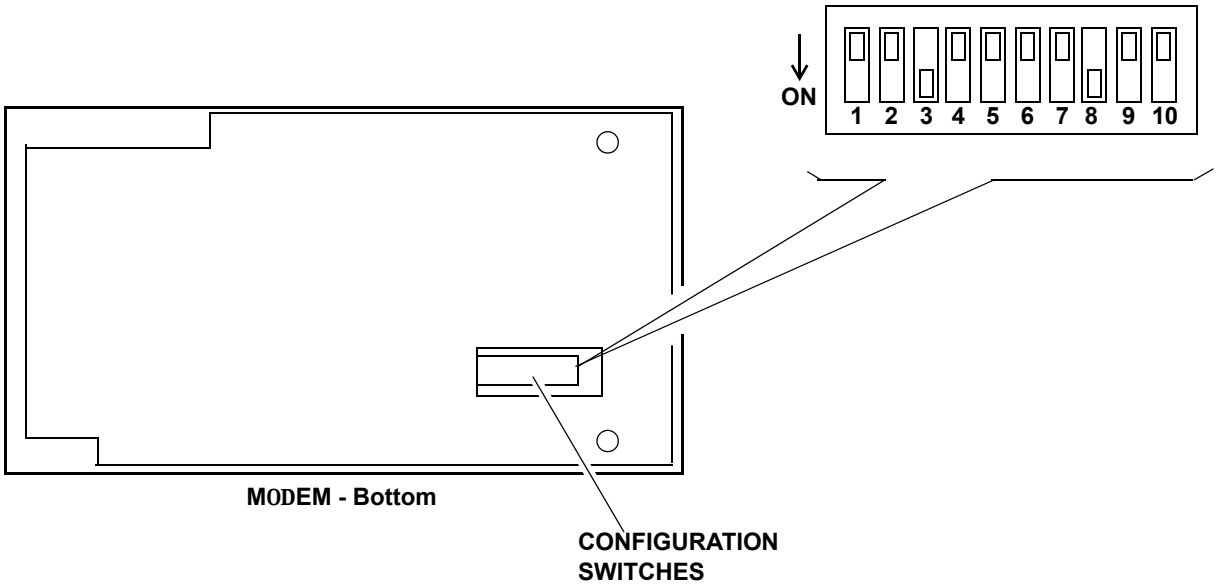
The EXTERNAL MODEM supplied with MIM products includeds the following items:

- MODEM
- POWER ADAPTER
- SERIAL CABLE
- TELEPHONE CORD
- INSTRUCTION BOOK

Procedure

[1] Check that the MIM is de-energized.

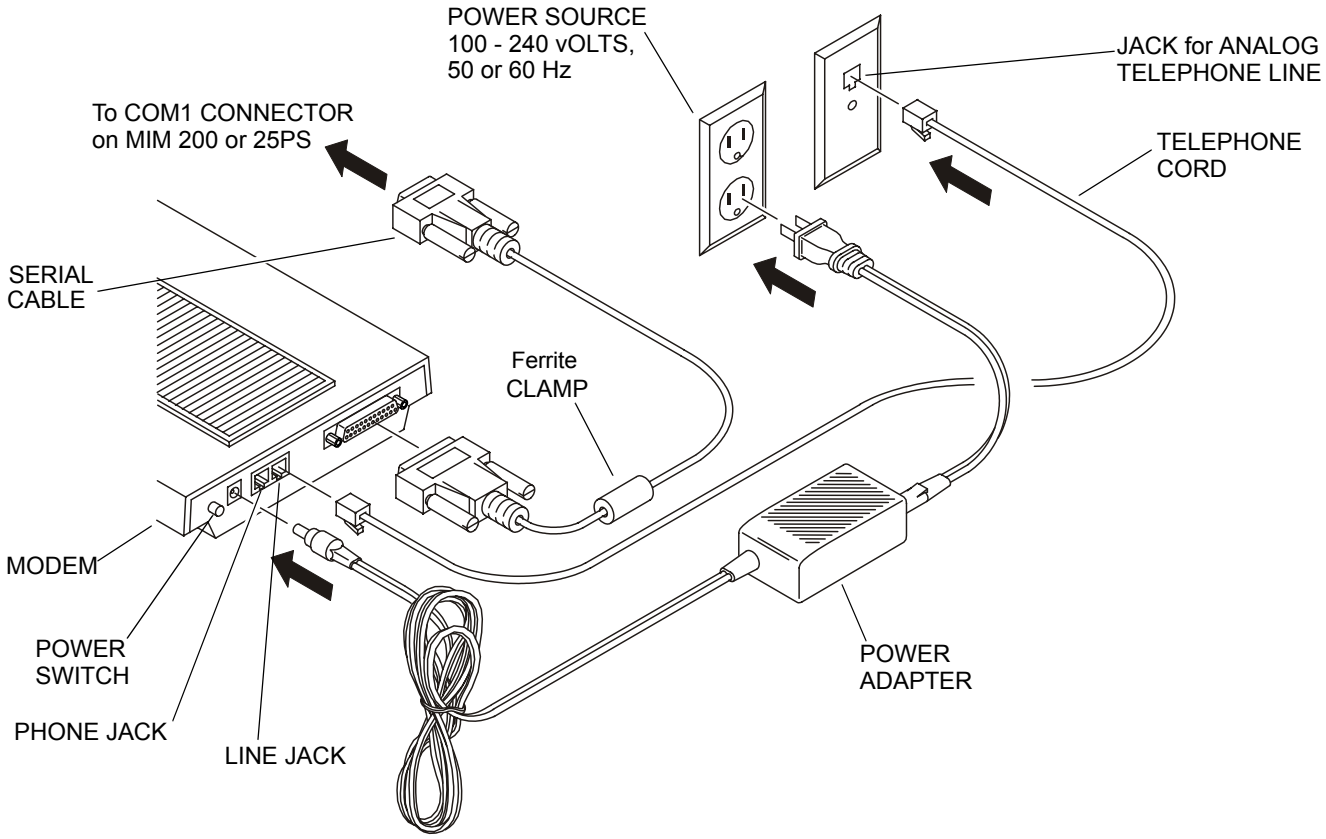
Figure 3–32 CONFIGURATION SWITCHES



[2] Set the CONFIGURATION SWITCHES on the bottom of MODEM:

- SWITCHES 3 and 8: ON
- All other SWITCHES: OFF

Figure 3–33 MODEM CABLES



[3] Connect the cables for the MODEM as shown in Figure 3–33 on Page 3–39.

Note

The TELEPHONE CORD connects to the LINE JACK on the MODEM. Do not connect to the TELEPHONE JACK on the MODEM.

[4] Install the ferrite CLAMP on the SERIAL CABLE near the end with the 25-pin CONNECTOR.

[5] Energize the MODEM.

Note

No MIM software coniguration is required to use the external MODEM. Powering up the MIM with the MODEM installed activates remote service access.

Installing a FIBER OPTIC OUTPUT (FOPCIL) BOARD

This procedure installs a FIBER OPTIC OUTPUT (FOPCIL) BOARD in a MIM 200 or 25 PS and connects the FOPCIL BOARD to a local PRINTER.

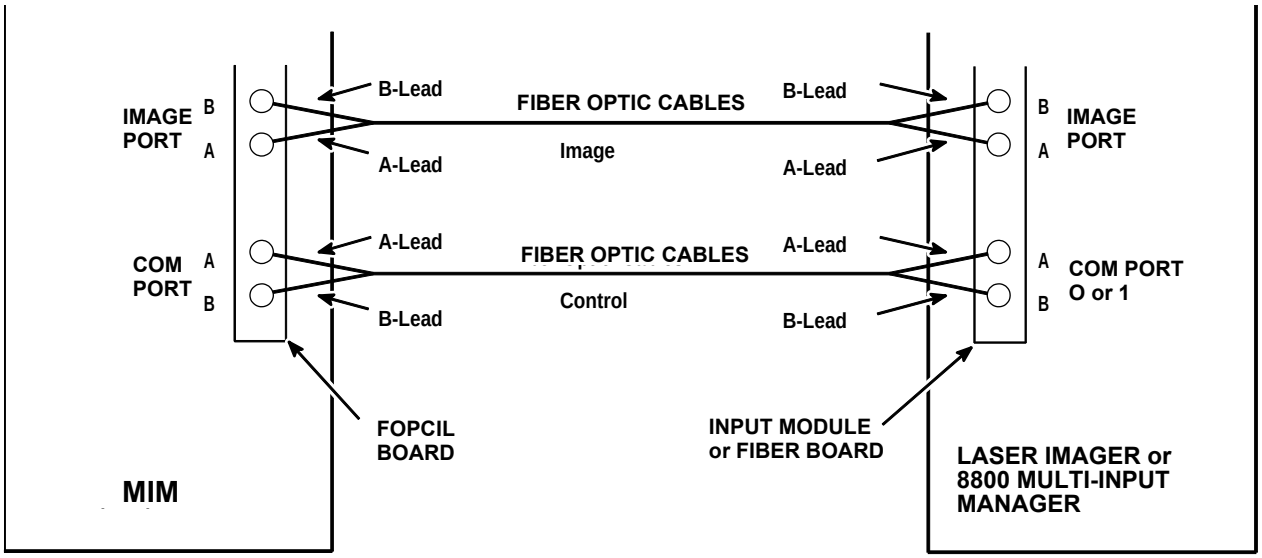
Tools/Parts

- FOPCIL BOARD
- FIBER OPTIC CABLES (2)

Procedure

1. Check that the MIM is de-energized.
2. Insert the FOPCIL BOARD into:
   - Slot 6 on the back of the MIM 200 **<SLOT ON NEW MIM???>**
   - The INTERFACE BOARD located at the top center of the 25 PS
3. Connect FIBER OPTIC CABLES as indicated in Figure 3–34.
   - On INPUT MODULES for 969 LASER IMAGERS or 8800 MULTI-INPUT MANAGERS, the control CABLES can be connected to either the COM 1 or COM 2 PORT.
   - On the FIBER INTERFACE BOARD for the 8500/8700 LASER IMAGER/PLUS, the image CABLES can be connected to USER PORT 0 or 1. The control CABLES can be connected to COM PORT 0 or 1.

Figure 3–34 FIBER OPTIC CABLES



Installing a COPPER OUTPUT (COPCIL) BOARD

This procedure installs a COPPER OUTPUT (COPCIL) BOARD in a MIM 200 or 25 PS and connects the COPCIL BOARD to a local LASER IMAGER.

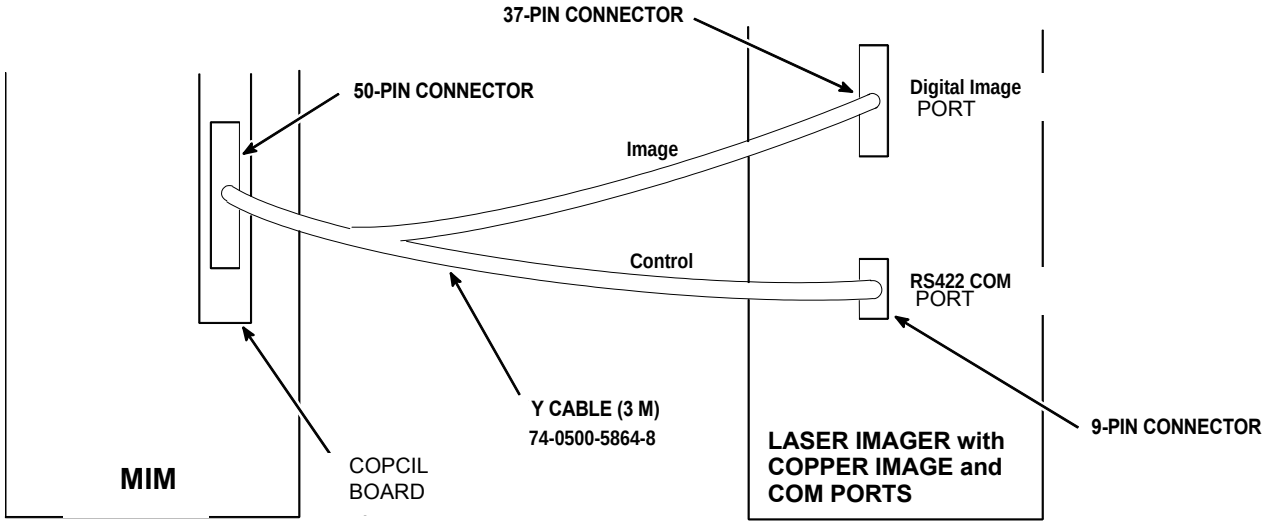
Tools/Parts

- COPCIL BOARD
- Y CABLE

Procedure

1. De-energize the MIM, if necessary.
2. Insert the COPCIL BOARD into:
   - Slot 6 in the MIM 200 <**SLOT ON NEW MIM??>**
   - The INTERFACE BOARD location at the top center of the 25 PS
3. Connect CABLES as indicated in Figure 3–35. If the local PRINTER is an 8500/8700 LASER IMAGER/STANDARD, you can connect the "Y" CABLE to either image PORT and to either COM PORT.

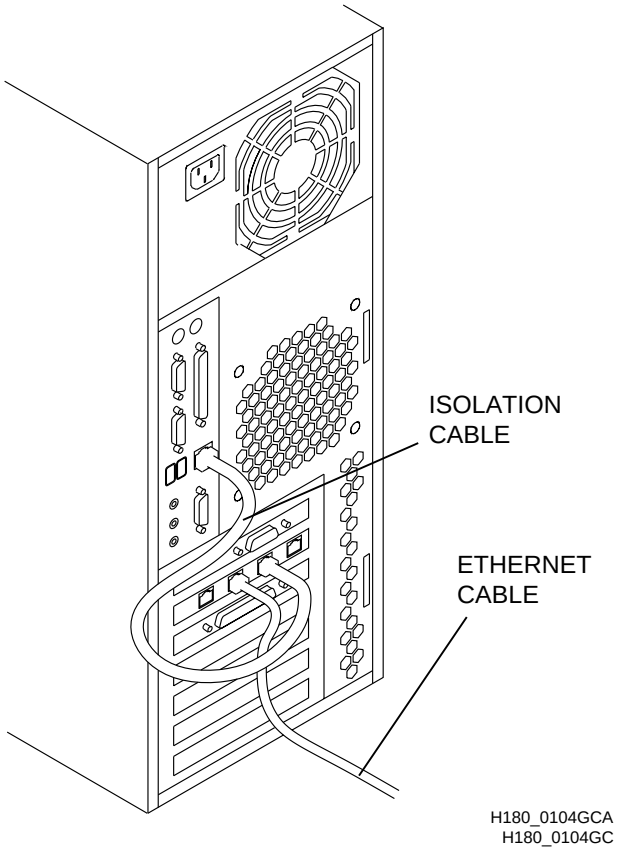
Figure 3–35 COPPER OUTPUT CABLES



9410-62L

Network Isolation for MIM 200: 667 MHz, 1 MHz, 1.2 GHz, 2.4 MHz - European

DUAL NETWORK ISOLATION BOARD



Primary *Ethernet* Isolation Connections

1. Connect the ISOLATION CABLE ASSY to the NETWORK OUTPUT and to INPUT #1 (J1) on the DUAL NETWORK ISOLATION BOARD.
2. Connect the ETHERNET CABLE to the OUTPUT #1 (J2) on the DUAL NETWORK ISOLATION BOARD and to the CUSTOMER NETWORK.

Secondary *Ethernet* Isolation Connections

To isolate the connection for the direct-connect network connection using a CROSSOVER NETWORK CABLE to a LASER IMAGER.

1. Connect the second ISOLATION CABLE ASSY to the NETWORK OUTPUT PORT and to INPUT PORT #2 (J3) on the DUAL NETWORK ISOLATION BOARD.
2. Connect the CROSSOVER ETHERNET CABLE to OUTPUT #2 (J4) on the DUAL NETWORK ISOLATION BOARD and to the INPUT NETWORK PORT of the LASER IMAGER.

Patient Environment Connection

The MIM 200 can be installed within the patient environment in the European Economic Community (EEC) if it is connected per "Setup Diagram" on Page 14–5. For additional information see "Compliancy with IEC 60601-1-1/EN 60601-1-1 Requirements" on Page 14–4 and "Non-Compliancy with IEC 60601-1-1/EN 60601-1-1 Requirements" on Page 14–6

Connecting the KEYPAD to the MODALITY

A SWITCH on the MODALITY can be connected to a KEYPAD in place of a FOOTSWITCH, as shown in the drawing below. An optional CABLE is available for this connection. This connection applies to MODALITY SERVERS only.

CABLE Catalog Number: 1836253

CABLE Description: Four meter IMAGE ACQUISITION CABLE

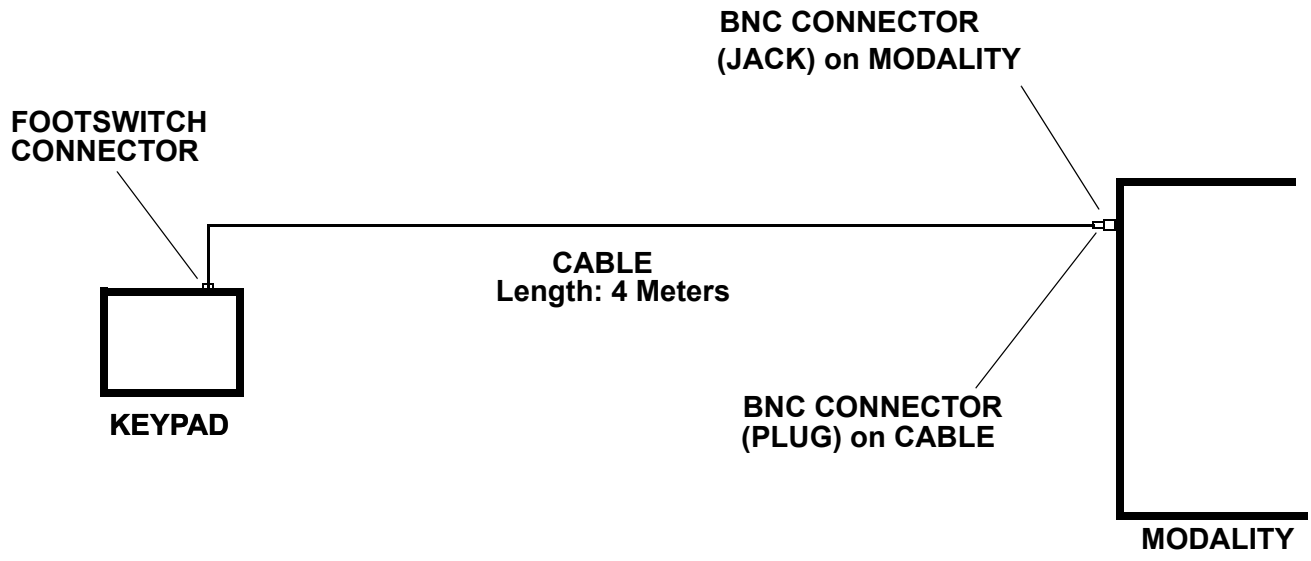
The CABLE has a KEYPAD CONNECTOR on one end and a BNC coaxial PLUG on the other end. It is designed to connect to a MODALITY that has SWITCH CONTACTS wired to a BNC coaxial JACK. A BNC-to-RCA adapter is supplied with the CABLE for connecting to a MODALITY with an RCA-type coaxial JACK.

Important

This CABLE provides a reference voltage for isolated SWITCH CONTACTS at the MODALITY.

Important

After installing this modification, the MODALITY SERVER must be set up so that the MODALITY Store function can be done from the KEYPAD. See Section 7.



Preparing to Apply Power

Setting Up the MIM

Set up the MIM for application of power as follows:

- The MIM 200 (667 MHz) and the 25 PS have a 115/230 V POWER SWITCH, located on the rear of the MIM adjacent to the POWER CONNECTOR. Set this SWITCH to the correct position for the site.

Note

Later MIM 200s (2.4 GHz and 1 GHz) and the MIM 100 do not include the 115/230 V SWITCH. They include "Autosensing" circuits which automatically set the MIM for the correct source voltage.

- The MIM 200 and the 25 PS are provided with a UPS, for either 115 or 230 V operation. A UPS is optional with the MIM 100. Connect the UPS to the MIM and to source power using the instructions included with the UPS.

Important

The UPS for the 25 PS is a "smart" unit. It includes software which allows communication with the 25 PS. If a source power failure occurs, the UPS provides battery backup for the 25 PS for about 1 minute (adjustable) to allow the 25 PS to shut down its processes in order. Then, about 7 or 8 seconds later, the UPS turns off.

De-energizing the MIM

[1] Shut down the MIM either from the KEYPAD or from the "MIM Service Application." The MIM 200 and 25 PS will power off automatically.

[2] For the MIM 100: De-energize the MIM by pressing the POWER SWITCH off after the KEYPAD indicates that it is safe to do so. The power light will turn off.

Energizing the MIM

After all components have been set up and CABLES have been connected, apply power to the system:

[1] Energize the UPS, if the system includes one.

[2] For all MIMS except the 25 PS:

(a) Energize the MIM by pressing the POWER SWITCH on. The power light will turn on.

(b) If the MIM has been set up, check the KEYPAD for a "Ready" indication. Start-up to "Ready" can take up to 6 minutes.

[3] For the 25 PS: Energize the 25 PS by pressing the POWER SWITCH on the POWER STRIP to the on position.

Section 4: Upgrading MIM Software

Introduction

The procedures in this section are primarily "upgrade" procedures. These procedures upgrade the MIM to the latest software level. Normally, except for the procedure "Saving and Restoring the Configuration", it is not necessary to perform these procedures when you install a **new** system, because new systems are delivered with the latest software and software licenses. The procedures include:

- "Saving and Restoring the System Set Up."
- "Setting Up the BIOS."
- "Installing New MIM Application Software (Ghosting)."
- "Enabling Software Licenses."
- "Installing MIM DEVICE DRIVERS and FIRMWARE."

Saving and Restoring the System Set Up

Saving and Restoring Using the "MIM Service Application"

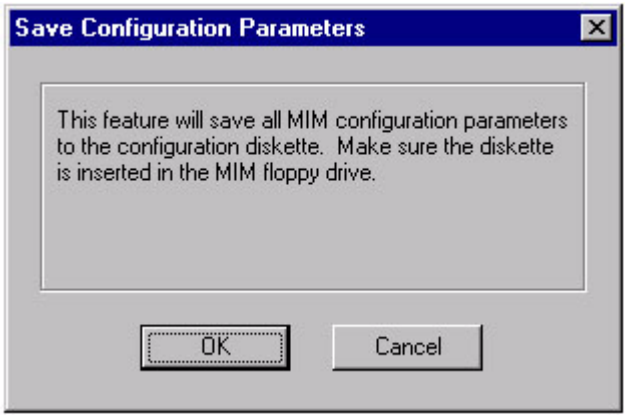
[1] Connect the LAPTOP COMPUTER to the MIM and start the "MIM Service Application".

[2] From the "MIM Service Application" window, select **Connect>Connect to MIM**

[3] Make sure the CONFIGURATION DISKETTE is loaded in the FLOPPY DRIVE of the MIM.

[4] Select **Configuration** from the menu, and:

- To back up the configuration, select **Save Configuration**.
- To restore the configuration, select **Restore Configuration.**


Save Configuration Parameters
This feature will save all MIM configuration parameters to the configuration diskette. Make sure the diskette is inserted in the MIM floppy drive.
OK
Cancel

[5] Click [OK].

Saving and Restoring from a PRINT or DISPLAY KEYPAD

[1] At the KEYPAD main menu, press [Menu].

[2] Press the [Down Arrow] key until > points to the “Service” menu.

[3] Press the [Menu].

[4] Press the [Down Arrow] key until > points to the “Configuration” menu.

[5] Press the [Menu] key.

[6] Check that the CONFIGURATION DISKETTE is loaded in the FLOPPY DRIVE of the MIM.

[7] To **save** the configuration for the system:

- Press the [Down Arrow] key until > points to **Backup Config**.
- Press the [Menu] key.
- Press the [Down Arrow] key until > points to **Run Backup**. The following messages will display: “BACKUP STATUS: IN PROGRESS.” Then “BACKUP STATUS: Operation completed.”
- To exit, press the [Menu] key.

[8] To **restore** the configuration for the system:

- Press the [Down Arrow] key until > points to **Restore Config**.
- Press the [Menu] key. “Enter Password” will display.
- Use the [Up Arrow] and [Down Arrow] keys to enter the password: **SVC**, letter by letter. Press the [Menu] key after entering each letter. The [Menu] key acts like the Spacebar on a KEYBOARD.
- Press the [Menu] key until the screen displays “Exit.”
- Press the [Down Arrow] key until > points to **Exit**.
- Press the [Menu] key.
- Press the [Down Arrow] key until > points to **Confirm Restore**.
- Press the [Menu] key to begin the system restore.

Backing up from the TOUCHSCREEN KEYPAD

[1] Check that the CONFIGURATION DISKETTE is loaded in the FLOPPY DRIVE of the MIM.

[2] Press [MAIN MENU] on the TOUCHSCREEN KEYPAD.

[3] Press [SERVICE].

[4] Press [BACKUP CONFIGURATION]. The screen will display “DISKETTE OK.”

[5] Press [EXECUTE BACKUP]. The screen will display “BACKUP STATUS: IN PROGRESS,” then “BACKUP STATUS: COMPLETED.”

[6] Press [RETURN].

Note

The Restore function is not available on the TOUCHSCREEN KEYPAD.

Setting Up the BIOS

BIOS Setup Functions

Version 6.1 software is on a CD-ROM for all MIMs. For all MIMs using software stored on CD-ROM, the BIOS must be set up to boot from CD-ROM. MIM 200s below serial number 100600 were set up to boot from the HDD DRIVE. Before V_6.1 software can be loaded on any MIM 200 below serial number 100600, the BIOS for the MIM must be set up to boot from CD-ROM. For many of these MIMs, the BIOS was changed when Version 5.0 or 5.2 MIM software was loaded. However, if you are upgrading a MIM200 in this group that currently has a software level below Version 5.0, check the Boot options in the BIOS and change if necessary.

The following pages provide procedures for setting up the BIOS in the following devices:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200) - Both 1 GHz and 667 MHz
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 (MIM 100)

Note

Setting up the BIOS to boot from CD-ROM normally involves only changing the settings that select the first and second boot devices. CD-ROM must be selected to be the first boot device and the HARD DRIVE to be the second. But if the BIOS is corrupt, all settings will have to be checked.

Table 4–1 shows general options that are available during BIOS setup.

Table 4–1 BIOS Setup Functions

Menu	Use to:
Main	Set up and change the main options; for example, time, date, FLOPPY DRIVE, HARD DRIVE, CD-ROM.
Advanced	Change advanced features, for example: “peripheral configuration” and “advanced chipset configuration”.
Security	Enter a password to limit access to the system.
Exit	Save or discard changes.
Sub Menu	**Use to:**
Hard Drive Configuration	Set up the HARD DRIVE.
Boot options	Modify options for the system to boot up, for example: boot sequence.
Peripheral Configuration	Modify options for the SERIAL PORTS, the PARALLEL PORT, and the HARD DRIVE interfaces.
Advanced Chipset Configuration	Modify options for memory and system buses.
Power Management Configuration	Modify options for Advanced Power Management (APM).
Plug-and-Play Configuration	Modify options for the system’s plug-and play features.

Setting Up the BIOS for the MIM 200 - 2.4 GHz

This version of MIM will come from the factory set to boot from CD-ROM. The following procedure is provided in case the BIOS is corrupted.

[1] Check that the configuration is saved to FLOPPY DISKETTE.

[2] Shut down the MIM from the "MIM Service Application" or the KEYPAD.

[3] De-energize the MIM.

[4] Attach the MONITOR KIT to the MIM. See "Using a MONITOR KIT to Access the MIM" in Section 2.

[5] Energize the MIM, and access the "Configuration/Setup Utility" menu for the BIOS by pressing F1 when prompted on the MONITOR screen.

[6] Follow the instructions on the screen for selecting menu items, and install the settings in Table 4–2.

Table 4–2 Settings on the "Configuration/Setup Utility" Menu

Step	Under Menu Item	Action
1	Devices and I/O Ports / USB Setup / USB Support	Disabled
2	Devices and I/O Ports / Serial Port Setup / Serial Port B Address	3F8
3	Devices and I/O Ports / Serial Port Setup / Serial Port A Address	2F8
4	Start Options / Startup Sequence / Wake On LAN	Disabled
5	Start Options / Startup Sequence / First Startup Device	Select "CD ROM"
6	Start Options / Startup Sequence / Second Startup Device	Select "Hard Disk 0"
7	Start Options / Startup Sequence/ Third Startup Device	Disabled
8	Start Options / Startup Sequence / Fourth Startup Device	Disabled
9	Start Options / Fast Power On Self Test	Disabled
10	Start Options / Memory Test	Enabled
11	Start Options / Boot Fail Count	Disabled
12	Advanced Setup / CPU Frequency / Single Processor MP Table	Disabled
13	Power Management Setup / Automatic Power On	Disabled

[7] After entering new settings, save and exit the BIOS setup.

[8] Reboot. Then re-ghost the MIM.

Setting Up the BIOS for the MIM 100 and MIM 200 - 1.2 GHz

This version of MIM will come from the factory set to boot from CD-ROM. The following procedure is provided in case the BIOS is corrupted.

[1] Check that the configuration is saved to FLOPPY DISKETTE.

[2] Shut down the MIM from the “MIM Service Application” or the KEYPAD.

[3] De-energize the MIM.

[4] Attach the MONITOR KIT to the MIM. See “Using a MONITOR KIT to Access the MIM” in Section 2.

[5] Energize the MIM, and access the “Configuration/Setup Utility” menu for the BIOS by pressing F1 when prompted on the MONITOR screen.

[6] Follow the instructions on the screen for selecting menu items, and install the settings in Table 4–3.

Table 4–3 Custom Settings from Factory Defaults

Step	Under Menu Item	Action
1	General Configuration / Select / - 1st Boot Device	DROM
2	General Configuration / Select / 2nd Boot Device	HDD-2
3	General Configuration / Select / 3rd Boot Device	DISABLED
4	General Configuration / Select / 4th Boot Device	DISABLED
5	Peripherals / Serial port 2	COM2
6	Power Management	“Disable”

[7] After entering new settings, save and exit the BIOS setup.

[8] Reboot. Then re-ghost the MIM.

Setting Up the BIOS for the MIM 200 - 1 GHz

This version of MIM will come from the factory set to boot from CD-ROM. The following procedure is provided in case the BIOS is corrupted.

[1] Check that the configuration is saved to FLOPPY DISKETTE.

[2] Shut down the MIM from the “MIM Service Application” or the KEYPAD.

[3] De-energize the MIM.

[4] Attach the MONITOR KIT to the MIM. See “Using a MONITOR KIT to Access the MIM” in Section 2.

[5] Energize the MIM, and access the “Configuration/Setup Utility” menu for the BIOS by pressing F1 when prompted on the MONITOR screen.

[6] Follow the instructions on the screen for selecting menu items, and install the settings in Table 4–4.

Table 4–4 Settings on the “Configuration/Setup Utility” Menu

Step	Under Menu Item	Action
1	Devices and I/O Ports / USB Setup	Disable “OnChip USB”
2	Devices and I/O Ports / IDE Drives Setup	Enable “OnChip Primary IDE” - default setting
3	Devices and I/O Ports / IDE Drives Setup	Enable “OnChip Secondary IDE” - default setting
4	Devices and I/O Ports / Video Setup	Set “Primary Video Slot” to AGP
5	Devices and I/O Ports /	Disable “OnChip sound”
6	Devices and I/O Ports /	Disable “Sound Blaster”
7	Devices and I/O Ports /	Disable “Midi Port (200-207H)”
8	Start Options / Startup Sequence	Select “CD ROM” to be the First Boot Device -default setting
9	Start Options / Startup Sequence	Select “Hard Disk 0” to be the Second Boot Device
10	Start Options / Startup Sequence	Disable “Third Boot Device”
11	Advanced Setup/Chipset Feature	Set “AGP Aperture Size” to 64
12	Power Management Setup / Automatic Power On	Disable “Wake On PCIPME”
13	Power Management Setup / Automatic Power On	Disable “Wake on LAN/Ring”
14	Power Management Setup / Automatic Power On	Disable “Wake on RTC Alarm”
15	Power Management Setup / Automatic Power On	Set “Power Button Mode” to Instant-Off - default setting
16	Power Management Setup / Automatic Power On	Set “Power On After Power Loss” to Last State

[7] After entering new settings, save and exit the BIOS setup.

[8] Reboot. Then re-ghost the MIM.

Setting Up the BIOS for the MIM 200 - 667 MHz

Important

Starting with V_5.0 application software, the MIM includes a “soft off” feature for all versions of MIM 200. All before serial number 103650 must have a BIOS change before being upgraded to Version 5.0. Otherwise the system will reboot on an attempted shutdown. See the necessary BIOS change in Step 12 of Table 4–5.

Important

Do this procedure before installing new application software in any MIM 200 with a serial number below 100600, to enable booting from the CD-ROM.

[1] Make sure the configuration is saved to FLOPPY DISKETTE.

[2] Shut down the MIM from the “MIM Service Application” or the KEYPAD.

[3] De-energize the MIM.

[4] Attach the MONITOR KIT to the MIM. See “Using a MONITOR KIT to Access the MIM” in Section 2.

[5] Energize the MIM, and access the “Configuration/Setup Utility” menu for the BIOS by pressing F1 when prompted on the MONITOR screen.

[6] Follow the instructions on the screen for selecting menu items, and install the settings from in Table 4–5.

Table 4–5 Settings on the “Configuration/Setup Utility” Menu

Step	Under Menu Item	Action
1	Devices and I/O Ports	Select “Not Installed” for Mouse
2	Devices and I/O Ports / USB Setup	Disable “USB Keyboard/ Mouse Support”
3	Devices and I/O Ports / IDE Drives Setup / IDE Hard Disk Drive 0	Select “High Performance” for IDE Performance - default setting
4	Devices and I/O Ports / IDE Drives Setup / IDE Hard Disk Drive 0	Disable “IDE Read Prefetch” - default setting
5	Devices and I/O Ports / Audio Setup	Disable “Audio Support”
6	Start Options / Startup Sequence	Select “CD ROM” for the Primary/First Startup Device
7	Start Options / Startup Sequence	Select “Hard Disk 0” for the Primary/Second Startup Device
8	Start Options / Startup Sequence	Select “Disabled” for the Automatic Power On Startup Sequence
9	Start Options / Startup Sequence	Select “Primary” for the Error Startup Sequence
10	Start Options	Enable “Keyboardless Operation Mode”
11	Start Options	Disable “Network Boot F12 Option”
12	Power Management / APM	Enable “APM BIOS Mode”
13	Power Management / APM	Disable “Automatic Hardware Power Management”
14	Power Management / Automatic Power On / Wake on LAN	Disable “Wake on LAN”

[7] After entering new settings, save and exit the BIOS setup.

[8] Reboot. Then re-ghost the MIM.

Setting Up the BIOS for the 25 PS

This version of MIM comes from the factory set to boot from the CD-ROM. Use this procedure if the BIOS is corrupted.

[1] Make sure the configuration is saved to FLOPPY DISKETTE.

[2] Shut down the MIM from the "MIM Service Application" or the KEYPAD.

[3] De-energize the MIM.

[4] Attach the MONITOR KIT to the MIM. See "Using a MONITOR KIT to Access the MIM" in Section 2.

[5] Energize the MIM, and access the BIOS "Configuration/Setup Utility Menu" by pressing F2 when prompted on the MONITOR screen.

[6] Follow the instructions on the screen for selecting menu items, and install the settings from Table 4–6 for the Menu Items indicated. Disregard all other Menu Items.

Table 4–6 Settings on the "BIOS Setup" Menu

Step	Under Menu Item	Action
1	Advanced/ I/O Device Configuration	Enable "Serial Port A"
2	Advanced/ I/O Device Configuration	Enable "Serial Port B"
3	Advanced/ I/O Device Configuration	Enable "Serial Port C"
4	Advanced/ I/O Device Configuration	Disable "Serial Port D"
5	Advanced/ I/O Device Configuration	Disable "Parallel Port A"
6	Advanced/ I/O Device Configuration	Disable "Parallel Port B"
7	Boot/Floppy Check	Disable
8	Boot / Boot Device Priority	Select: "1. ATAPI CD-ROM Drive" "2. Hard Drive" "3. Removable Devices" "4. Network Boot" "5. MBA UNDI"

[7] After entering new settings, save and exit the BIOS setup.

[8] Reboot. Then re-ghost the MIM.

Setting Up the BIOS for the MIM 100

For Software V_6.1, the capability exists to load software from a CD using the external CD-ROM DRIVE KIT Tool. For some MIMs the BIOS settings must be changed so that the MIM can boot from the CD-ROM DRIVE:

- Each MIM 100 with a serial number below 111345 contains a 120 MHZ mother board and may not be upgraded to V_6.0 and above software.
- Each MIM 100 with a serial number 111345 or above contains a 433 MHz motherboard and may be upgraded to V_6.0 and above software. Additional memory and BIOS configuration may be required.
- Each MIM 100 with a serial number 112779 or higher comes from Manufacuring with the correct BIOS configuration but may need additional memory.
- Each MIM 100 with a serial number 113045 or higher comes from Manufacuring with the correct BIOS configuration and memory.

The following procedure is provided if the BIOS becomes corrupted.

[1] Check that the configuration is saved to FLOPPY DISKETTE.

[2] Shut down the MIM application from the “Service Application” or the KEYPAD.

[3] De-energize the MIM.

[4] Connect the MONITOR, KEYBOARD, and MOUSE to the equipment.

[5] Energize the MIM.

[6] When the MIM is booting, press [F2] to enter the BIOS Setup.

Table 4–7 Settings on the “PhoenixBIOS Setup Utility” Menu

Step	Under Menu Item	Action
1	Advanced	Disable “Legacy USB Support”
2	Advanced / I/O Device Configuration	Disable “Parallel Port”
3	Advanced	Select “Other” for Large Disk Access Mode
4	Advanced / Advanced Chipset Control	Select “4MB” for Graphics Aperture
5	Boot	Disable “QuickBoot Mode”
6	Main / Secondary Master	Select Type: [Auto]
7	Boot / Boot Device Priority	Change the Boot Device Priority to: • [ATAPI CD-ROM Drive] • [HARD DRIVE] • [Diskette Drive] • [Network Boot]

Loading New MIM Application Software (Ghosting)

It may be necessary to re-load the MIM application software (ghost) if:

- A software upgrade is necessary
- The HARD DRIVE is corrupt
- The current software is corrupt

Important

This ghosting procedure for MIM 100 requires the use of the external CD-ROM DRIVE KIT TL-Tools.

[1] Is the equipment a MIM 100?

Yes	No
a. Remove the COVER. b. Connect the EXTERNAL CD-ROM DRIVE, TL-5651, to the equipment: 1. TOOL RIBBON CABLE, 5E2908 - CONNECTOR P1 to IDE 1 on CPU BOARD. 2. TOOL RIBBON CABLE, 5E2908 - CONNECTOR P3 to CD-ROM DRIVE. 3. EXENDER POWER CONNECTOR, TL-5652, to power on CD-ROM DRIVE and to the INTERNAL CONNECTOR, MOD-J2 POWER CONNECTION. c. Continue with Step 2.	Continue with Step 2.

[2] Energize the MIM and start the “MIM Service Application”.

[3] Save the MIM configuration to FLOPPY DISKETTE.

[4] If necessary, set up the BIOS.

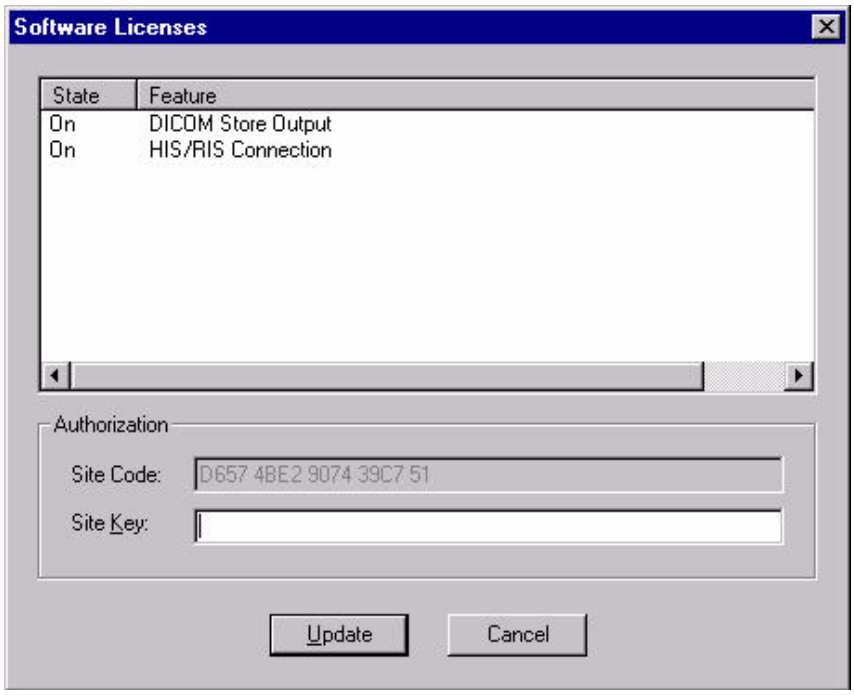
Note

Setting up the BIOS may be necessary for early MIMs that loaded software from the LAPTOP COMPUTER. Because current version software is provided on CD-ROM, the BIOS must be set up to boot from CD-ROM.

[5] If the LAPTOP COMPUTER does not contain the latest version of the “MIM Service Application”, load the latest version.

[6] Connect the LAPTOP COMPUTER to the MIM and connect to the “MIM Service Application”.

[7] Select **Admin>Software Licenses** and note the software licenses that are enabled. These will have to be re-enabled after ghosting.



[8] Load the CD-ROM with the new application software into the CD-ROM DRIVE of the MIM.

[9] De-energize, then energize the MIM. The software will begin to load automatically.

[10] Wait 6 minutes for ghosting to complete:

- For the MIM 100 and MIM 200: The MIM will beep 3 times if ghosting was successful. If the MIM beeps 10 times, ghosting has failed.
- For the 25 PS: The CD and HDD LED's will stop blinking after 6 minutes, indicating that ghosting has completed successfully.

[11] Remove the CD-ROM from the MIM. De-energize the MIM, then energize it.

Important

After a MIM has been ghosted, the first reboot will take about 4 minutes. CHKDSK will be performed once. Then the MIM will reboot and do CHDSK 3 more times before reaching the Ready state. The length of this process is not an indication of a bad Hard Drive. You should allow at least 7 minutes before assuming that the boot process has failed. When in doubt, connect a MONITOR to the MIM and watch the boot process.

Note

After V_6.0 and above ghosting is completed, the MIMs and RAS Server will have the following default IP Addresses:

- MIM 100, MIM 200, PS 25: 123.123.123.10
- RAS Server: Begin IP Address: 123.123.123.200, End IP Address: 123.123.123.201

[12] After successfully ghosting, re-enable the correct software licenses. See "Enabling Software Licenses" on Page 4–12.

[13] Restore the cofiguration from the backup disk or manually configure the system. See the instructions in Section 6 (for PRINT SERVERS) or Section 7 (for MODALITY SERVERS).

Enabling Software Licenses

Software licensing is necessary when:

- The customer purchases additional features for an existing system:
  - DICOM Store Output - Enabling connection to WORKSTATIONS and archives
  - HIS/RIS Connection - Enabling connection to a HIS/RIS Gateway
- You reload software (ghosting) in a MIM set up with destinations other than PRINTERS.

Important

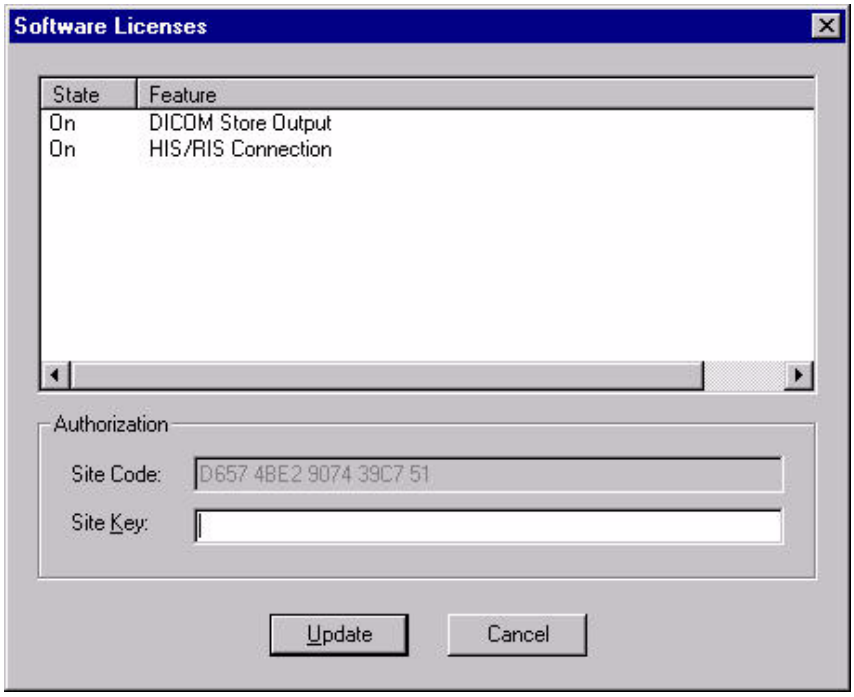
Using the LAPTOP COMPUTER, the FE must set the Software License to “On” state for each Feature before the MIM can add a DICOM Store Destination, or HIS/RIS GATEWAY.

[1] Connect the LAPTOP COMPUTER to the MIM and start the “MIM Service Application”.

Important

After ghosting, all V_6.0 and above MIMs (MIM 100, MIM 200 and 25 PS) have the default IP Address 123.123.123.10

[2] From the “MIM Service Application” screen, select **Admin>Software Licenses**.



[3] From the “Software Licenses” screen, record the “Site Code” information.

[4] Call the TSC and provide:

- The Site Code of the MIM
- The K# of the MIM

Note

The TSC will provide the necessary Site Key information.

[5] On the “Software Licenses” screen, enter the Site Key provided by the TSC.

[6] Click [Update].

[7] On the “Software Licenses” screen, check that the correct Features are “On.”

[8] Select [Cancel] to exit the screen.

Note

After the correct software licenses are enabled, the MIM is ready to be set up.

Installing MIM DEVICE DRIVERS and FIRMWARE

Important

Use this procedure to install software from the LAPTOP COMPUTER to the MIM to upgrade MIM DEVICE DRIVERS or install new FIRMWARE in any of the following MIM components:

- VIDEO INTERFACE BOARD
- DIGITAL INTERFACE BOARD
- KEYPAD

Note

The software which will be transferred in the following procedure was loaded onto the LAPTOP COMPUTER when it was set up. See "Installing the LAPTOP COMPUTER Software for MIM Products" in Section 2.

[1] Connect:

- LAPTOP COMPUTER to the MIM through Dial-Up Networking. See Section 2.
- "MIM Service Application" to the MIM. See Section 2.

[2] At the "MIM Service Application" window, select **Admin>Update Software**.

[3] Select the correct version and then select [OK].

Important

The MIM displays the "File Transfer Progress" window. Do **not** abort the procedure, which takes 5 to 10 minutes to complete.

- Wait 5 to 10 minutes for the "File Transfer Progress" completion. During this time the "File Transfer Progress" window might indicate 1 to 2 minutes of **no** activity.
- After 5 to 10 minutes the COMPUTER displays the message "The MIM Software has been successfully updated. The MIM system will be restarted." At this time, the software automatically restarts the MIM.
- Do **not** select "Reconnect" when the COMPUTER displays the "Re-establish Connection" window. Wait another 2 minutes for the KEYPAD to display the "Acquisition" window.

[4] Wait until the KEYPAD displays the "Acquisition" window. Then use the KEYPAD to select:

- Main Menu
- Service
- View System Information

[5] At the KEYPAD, check that the correct software version displays.

[6] Close any open windows on the LAPTOP COMPUTER.

MIM Privacy Feature

Introduction

MIM software includes a Privacy feature that customers can use to prevent unauthorized users of a MIM from printing or storing patient data. This feature allows customers to comply with the U. S. Health Insurance Portability and Accountability Act (HIPPA). The Customer can elect to either enable or disable the privacy feature. If the Privacy feature is enabled, the customer can set up user accounts that will require each authorized MIM operator to login at a KEYPAD with a user name and password.

The Privacy feature is controlled from a “Security Administrator Console” (SA Console).The SA Console is a web page on the MIM that can be accessed using Internet Explorer or other web browser. Each MIM unit has its own Security Administrator web page. Usually the customer's Security Administrator will access the SA Console web page from a COMPUTER connected on the same local area network as the target MIM. The SA Console contains several screens that are used to comfigure the Privacy functions to meet customer requirements.

A service provider can also access the Security Administrator Console using a MONITOR KIT if he/she has Security Administrator privledges. Starting Internet Explorer from the MIM desktop automatically brings up the Security Administrator Console web page.

For detailed instructions for using the Security Adminitrator Console, see User Guide 8E9002 - Security and Privacy Features for the MIM 100, MIM 200 and 25 PS.

Accessing the Security Administrator Console from a Remote COMPUTER

To open the SA Console for a MIM you must have:

- A remote COMPUTER connected on the same network a the target MIM
- The IP Address of the target MIM
- The username and password for the SA Console on the target MIM

On a newly installed V_6.0 and above MIM or after V_6.0 and above software is installed on a MIM, the username and password are:

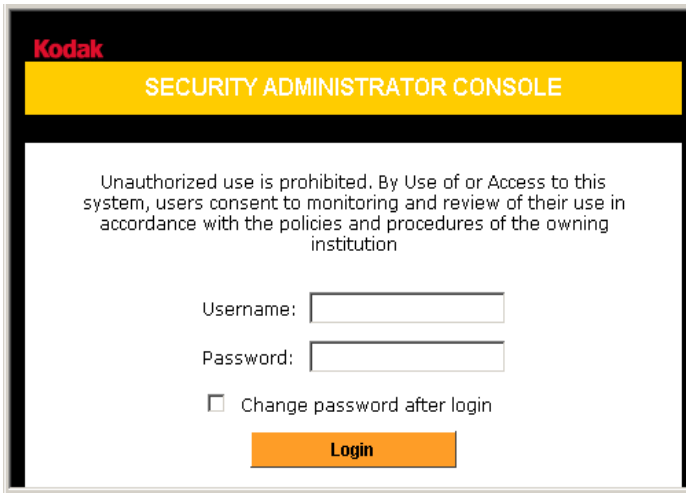
- Username: **SA**
- Password: **PASSWORD**

Access Procedure

[1] Connect your LAPTOP COMPUTER or other COMPUTER with Internet Explorer to the same network as the MIM.

[2] Launch Internet Explorer.

[3] In the Internet Explorer Address Box, type in **http://aaa.bbb.ccc.ddd** where aaa.bbb.ccc.ddd is the IP Address of the MIM.


Kodak
SECURITY ADMINISTRATOR CONSOLE
Unauthorized use is prohibited. By Use of or Access to this system, users consent to monitoring and review of their use in accordance with the policies and procedures of the owning institution
Username:
Password:
Change password after login
Login

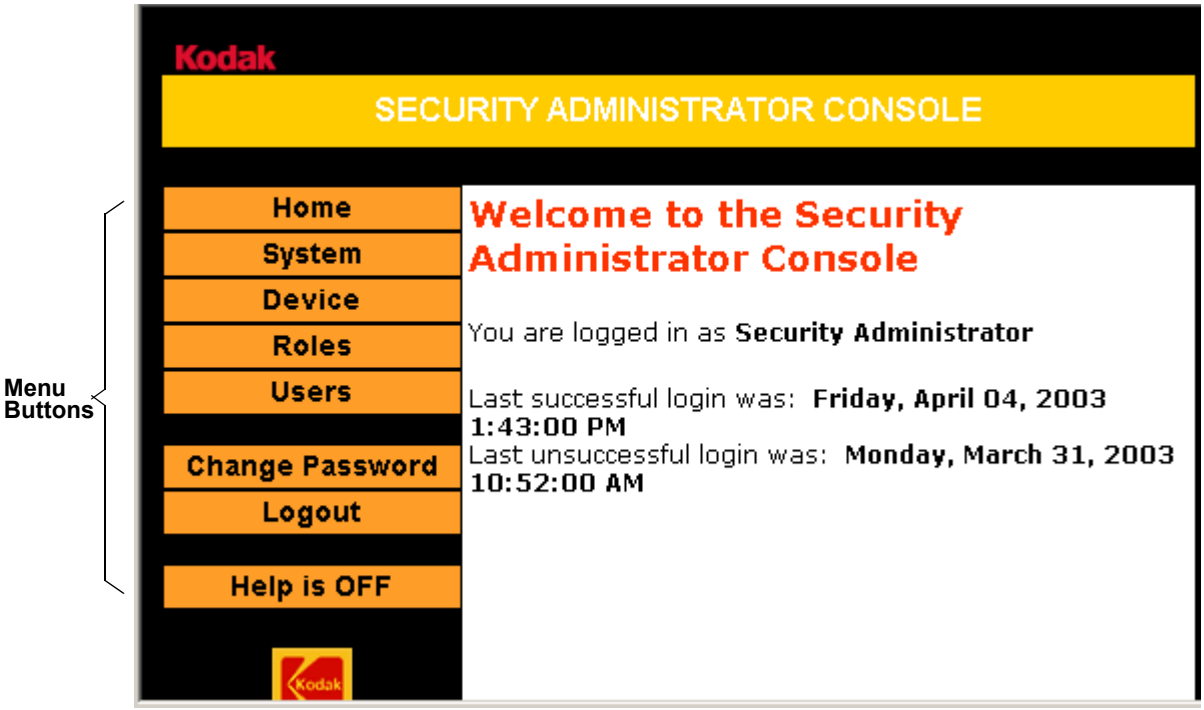
[4] Type in the username and password.

Note

Initially the username is **SA** and the password is **password**.

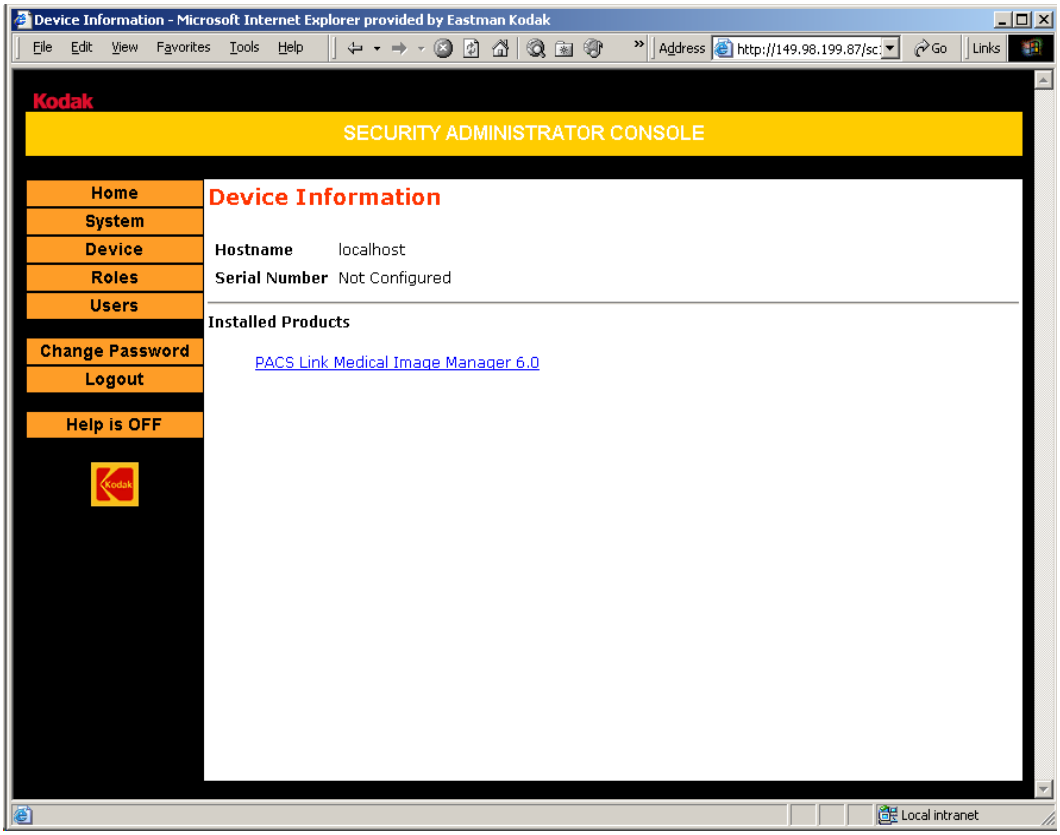
[5] Click [Logon].

The SA Console Welcome Screen appears. You can use the menu buttons on the left side of the Welcome screen to move to the other screens within the SA Console.

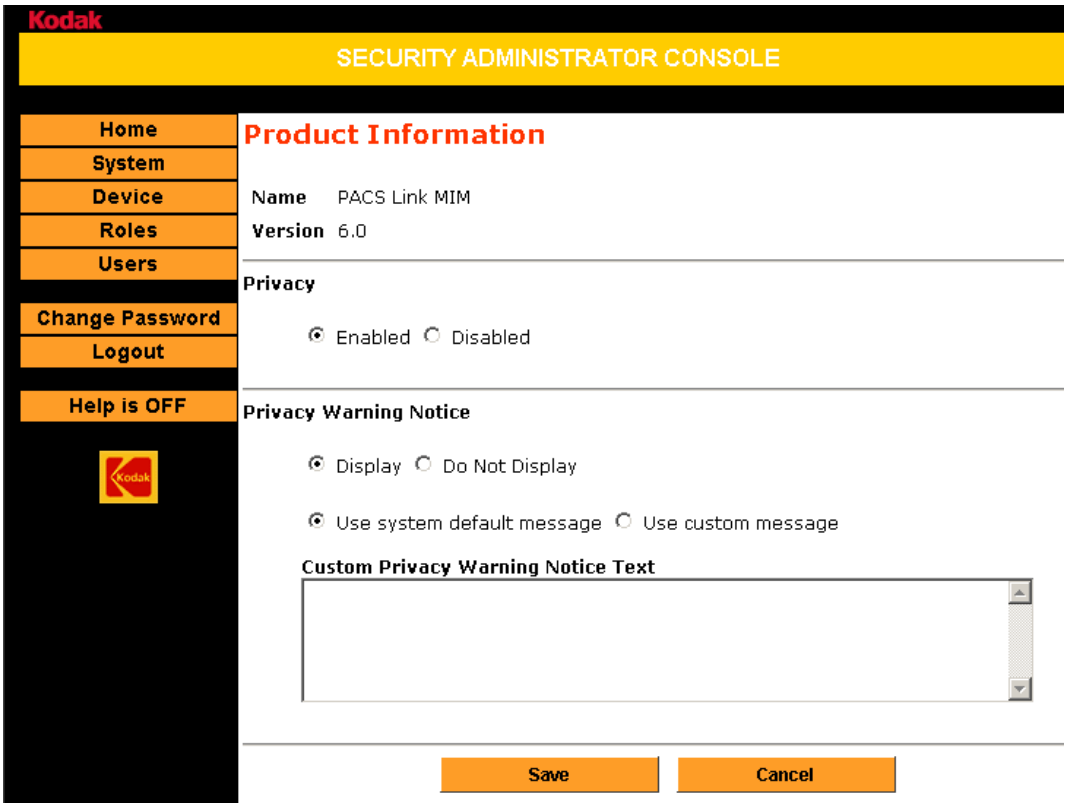


Enabling or Disabling the Privacy Feature

[1] Click [Device]



[2] Click [PACS LINK MEDICAL IMAGE MANAGER V_ 6.1].



[3] Click the “Enabled” or “Disabled” button.

[4] Click [Save].

[5] Click [Logout].

[6] Restart the MIM for the change to take effect.

Section 5: Setting up a PRINTER

Setting Up Parameters for the PRINTER

To set up a local PRINTER for use with a PRINT SERVER, see the SERVICE MANUAL for the PRINTER and the information in the following tables. After setting the parameters for the PRINTER, go to **Section 6: Setting Up a PRINT SERVER**.

Kodak DryView 8100 LASER IMAGER

To set up an 8100 LASER IMAGER that connects to a MIM, use MPC to enter the values for the following parameters.

Parameter	Value	Parameter	Value
System Configuration		**Image Quality**	
Acquire Channel	Digital	User ID	Enter ID per customer preference
MODEM Initialization	Accept default	MODALITY	Enter descriptive name for MODALITY
Maximum Imageable Columns	4096	Aspect Ratio	1.0
Network Configuration		Match Borders Option	Usually enabled - customer preference
TCP/IP Address	Not applicable	Force TFT to Film Dmin	Usually disabled - customer preference
TC/IP Net Mask	Not applicable	Pixel Correct	Disabled
TCP/IP Gateway	Not applicable	Mag Scaling	Enabled
Digital Configuration		**Optics**	
Default Pixels per Line	Not applicable	Translation Speed	Follow on-screen instructions
Default Lines per Image	Not applicable	SOP Delay	
Pixel Depth	8 or 12*	Pixel Stretch	Not adjustable
Header Mode	Header Line	Facet to Stretch	
Parity	Even	SOS Delay	
Communications		Laser Dead Time	
Parity	Even	SOS Level	
Stop Bits	1	Laser Dynamic Range	Follow on-screen instructions
Baud Rate	1200		
EOM	CR	P1 (PRI to DCR/PAS)	0
Protocol	952	P2 (DCR to DCR/PAS)	0
Memory Full Message	MOV	P3 (STP to STC)	0
Alarm Mode	Old	P4 (EXP to DCR.EOE)	0
Acquire Timeout	25	P5 (EOE to PTC)	0
		P6 (DCR to STC)	0

* Set to 8 or 12, depending on the pixel width from modalities.

Kodak DryView 8200 LASER IMAGER

To set up an 8200 LASER IMAGER that connects to a MIM, use MPC to enter the values for the following parameters.

Note

To connect the LAPTOP COMPUTER to the 8200 LASER IMAGER through the customer network and the MIM, you must start Internet Explorer (IE) and in the IE address window, enter the IP Address of the MIM followed by the socket number (4080) of the connection. For example: 149.98.202.200:4080

Parameter	Value
Network Configuration	
8200 TCP/IP Address	100.100.100.40
8200 TCP/IP Net Mask	255.255.255.0
8200 TCP/IP Gateway	0.0.0.0
DICOM Parameters	
SCU AE Title	MIM, for example. This is the “Node Name” used to configure MIM 200 for the network.
SCU TFT Set	Ver693c0.w87
SCU Contrast	1
SCU Smoothing	5
PRINTER AE Title	DV_8200, as agreed upon by user of MODALITY
PRINTER TCP/IP Port	1025
LOCAL PANEL	
Language Code	English
Current Contrast	1
Current Density	2.600
Image Quality	
Site ID	Get information from the user. This is data that will appear on each sheet of film.
Modality	Name of MODALITY
Match Borders Option	Enabled

Kodak DryView 8300, 8600 or 8610 LASER IMAGER

To set up the DIGITAL INPUT MODULE that connects to the MIM, enter the values for the following parameters at the LOCAL PANEL of the 8300/8600/8610 LASER IMAGER. The parameter values in **bold** apply to operation in a MIM system.

Parameter	8300 Value	8600 and 8610 Value
Operator Menu		
Density	**16**	**16**
Contrast	**6**	**3**
Sharp/Smooth	**AUTO (0)**	**1**
Film Layout	**1:1 Portrait**	**1:1 Portrait**
Installation Menu		
1. Aspect Ratio	**1.0**	**1.0**
3. Serial Control Interface:		
1. Baud Rate	**1200***	**1200***
2. Number of Data Bits	**8***	**8***
3. Number of Stop Bits	**1***	**1***
4. Parity	**Even***	**Even***
5. Delimiter	**Comma**	**Comma**
6. Ignore Late Ack/Nack	**On**	**On**
7. Protocol (*3M* or Keypad)	**3M*** (952)	**3M*** (952)
6. Mark Install Date	Date PRINTER is installed	Date PRINTER is installed.
7. Memory Management	**16**	**127**
8. Calibration Enable: ON or OFF	**On**	**On**
9. Module ID	Rename the input module per customer wishes	Rename the input module per customer wishes
10. Exposures: film counter	Do not change	Do not change.
11. Cal Processor Center Temp		
1. Measured Center Zone Reading	Readjustment at installation usually not required	
12. Cal Processor End Temp		
1. Measured End Zone Reading	Readjustment at installation usually not required	
13. Energy Saver Option	Customer preference	
14. Image Viewing	Emulsion	
15. Digital Interface		
1. Parity	**Even**	**Even**
16. Modality Group	**1**	**6**
17. Smoothing Group	-	**1**
18. PM Exposures	0	0
19. Film Count Enable	On	On
20. Film Type	-	DVM for mammography
* Parameter settings must match corresponding Communication and Image Transfer parameter settings for MIM.		

Kodak DryView 8700/8500 and 969 HQ LASER IMAGERS and *Kodak DryView* 8800 MULTI-INPUT MANAGER

Enter the following parameter values using MPC.

Important

For the 969 HQ LASER IMAGER and the 8800 MULTI-INPUT MANAGER, you must check that the Transfer Clock Speed JUMPER on the INPUT MODULE that connects to the MIM is set to 10 MHz. See the procedure in the SERVICE MANUAL.

<table>
<tr><th>Communication</th><th>Image</th><th>Host</th><th>System</th><th>EIB</th></tr>
<tr><td>Parity = Even</td><td>Contrast = 10</td><td>Image Size Mode = New</td><td>Parameter Set = 0</td><td>Test Pattern = Disable</td></tr>
<tr><td>Data Bits = 8*</td><td>Dmax = 3.0</td><td>Alarm Mode = Old</td><td>User Priority = Normal</td><td>Header Mode* = Header/Frame or Header Line*</td></tr>
<tr><td>Command Set = 969*</td><td>Density = 13</td><td>P1 = 0</td><td>FIB Port = 0</td><td>Prescale = On</td></tr>
<tr><td>Parity = Disable*</td><td>Border = 0</td><td>P2 = 0</td><td>Interface = Digital EIB</td><td>Parity = Even</td></tr>
<tr><td>Stop Bits = 1*</td><td>969 Cmd Set Beta
Horizontal = 3
Vertical = 3</td><td>P3 = 0</td><td>Media Size = 14 x 17</td><td>Parity Enable = Enable*</td></tr>
<tr><td>Baud = 19200*</td><td>Match Border = YES</td><td>P4 = 0</td><td>Media Type = BWGEN</td><td>Port (see Note 2)</td></tr>
<tr><td>End of Message = None</td><td>Dmin Mode = Normal</td><td>P5 = 0</td><td>ID Fgnd Intensity =
255 (8 bit)
4095 (12 bit)</td><td>Time out = 25</td></tr>
<tr><td rowspan="2">Protocol = Packet</td><td rowspan="2">TFT =VER 693CØ*</td><td>P6 = 0</td><td rowspan="2">ID Bgnd Intensity = 0</td><td rowspan="2">Pixels Per Line = 0</td></tr>
<tr><td>Rotate All Images = No</td></tr>
<tr><td colspan="2">Character Pacing = 0</td><td>Memory Full Resp = MOV</td><td>Requeue = 5</td><td>Image Lines = 0</td></tr>
<tr><td colspan="2" rowspan="15">**Note**: Click on “969 Command Set” in the Defaults box to enter all of the above values.</td><td>Override 952 Beta = No</td><td>Modality = Digital</td><td>Pixel Width (see Note 1)</td></tr>
<tr><td>Aspect Ratio = 1.00</td><td>User ID = Customer Preference</td><td rowspan="14">Digital IF Timing
T6 = 200
T7 = 255
T10 = 255</td></tr>
<tr><td>Horizontal Sharp = 0</td><td>Memory Management = Best Fit</td></tr>
<tr><td>Horizontal Smooth = 8</td><td rowspan="2">Destination = Processor 0***</td></tr>
<tr><td>Vertical Sharp = 0</td></tr>
<tr><td>Vertical Smooth = 8</td><td rowspan="12"></td></tr>
<tr><td>Density Test Contrast Source = NVRAM</td></tr>
<tr><td>Framing = No</td></tr>
<tr><td>Pixel Correction = Yes</td></tr>
<tr><td>Slides = 35 mm</td></tr>
<tr><td>Dual Switch = Off</td></tr>
<tr><td>Scale Format = No</td></tr>
<tr><td>Scale Magnif. = Yes</td></tr>
<tr><td colspan="5">* Parameter settings must match corresponding Communication and Image Transfer parameter settings for the MIM.</td></tr>
</table>

Communication	Image	Host	System	EIB
Note 1: Set Pixel Width to 8 or 12, depending on LASER IMAGER capability. **Note 2**: EIB Port setting: **Fiber connection**: always set to 0. **Copper connection** (8700/8500 LASER IMAGERS/STANDARD only): Port setting must be the same as the LASER IMAGER COM port used to connect to the MIM (i.e., if MIM connects to COM Port 0 of LASER IMAGER, set EIB Port to 0. If MIM connects to COM port 1 of LASER IMAGER, set EIB Port to 1.)				

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Section 6: Setting Up a PRINT SERVER

Introduction

This section provides instructions for setting up these MIMs to function as PRINT SERVERS:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200)
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)

The instructions set up the PRINT SERVERS to send images to these PRINTERS:

- *Kodak Ektascan* 1120 LASER PRINTER
- *Kodak Ektascan* 2180 LASER PRINTER
- *Kodak Ektascan* 160 LASER IMAGER
- *Kodak DryView* 8100 LASER IMAGER
- *Kodak DryView* 8200 LASER IMAGER
- *Kodak DryView* 8300 LASER IMAGER
- *Kodak DryView* 8500 LASER IMAGER / PLUS
- *Kodak DryView* 8500 LASER IMAGER / STANDARD
- *Kodak DryView* 8600 LASER IMAGER
- *Kodak DryView* 8610 LASER IMAGER
- *Kodak DryView* 8700 LASER IMAGER / PLUS
- *Kodak DryView* 8700 LASER IMAGER / STANDARD
- *Kodak DryView* 8800 MULTI-INPUT MANAGER
- *Kodak DryView* 969 HQ LASER IMAGER
- *Kodak DryView* 969 HQT LASER IMAGER

To set up a PRINT SERVER, you must have:

- A LAPTOP COMPUTER with the correct “MIM Service Application” software. See Section 2.
- The CABLES and HARDWARE installed on the system. See Section 3.
- The system software upgraded. If this installation is an **upgrade**, the MIM has:
  - The current MIM Application software. See Section 4.
  - The necessary software licenses. See Section 4.
- The LASER IMAGER that will be the destination for the MIM PRINT SERVER correctly set up. See Section 5.

This section includes these procedures for setting up a PRINT SERVER:

- ❒ Checking Service Tracking
- ❒ Setting Up the Network Address of the PRINT SERVER
- ❒ Setting Up Network Profiles for a 25 PS in a Mobile Van
- ❒ Setting Up the Network Input to the PRINT SERVER
- ❒ Setting Up the KEYPAD
- ❒ Setting Up the Destination for Single PRINTER Setups
- ❒ Setting Up the Destination for Dual PRINTER Setups

Checking Service Tracking

[1] Connect the Service LAPTOP COMPUTER to the MIM.

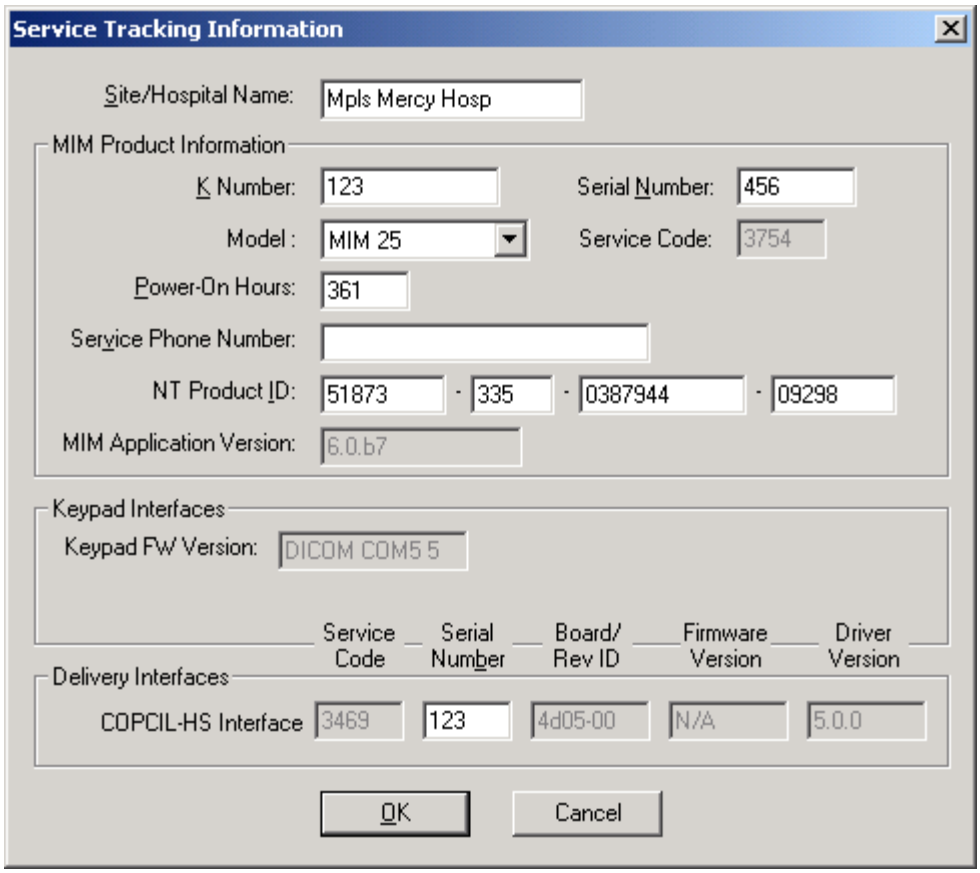
Note

You will need the IP Address of the MIM to connect. For a new MIM, locate the IP Address in the pouch on the side of the MIM. MIMs re-ghosted with V_6.1 software will have these IP Addresses:

- 123.123.123.10 for MIM 100, MIM 200 and 25 PS
- 123.123.123.200 RAS IP - for all MIMs

[2] Start the "MIM Service Application."

[3] At the "MIM Service Application" window, select **Configure>Service Tracking Information**.



Note

The screen displayed on your system might be slightly different from this screen.

[4] Check that the information in the "Service Tracking Information" window is correct.

[5] Did you change information?

- Yes: Click [OK].
- No: Click [Cancel].

[6] Go to the next procedure to set up the Network Address.

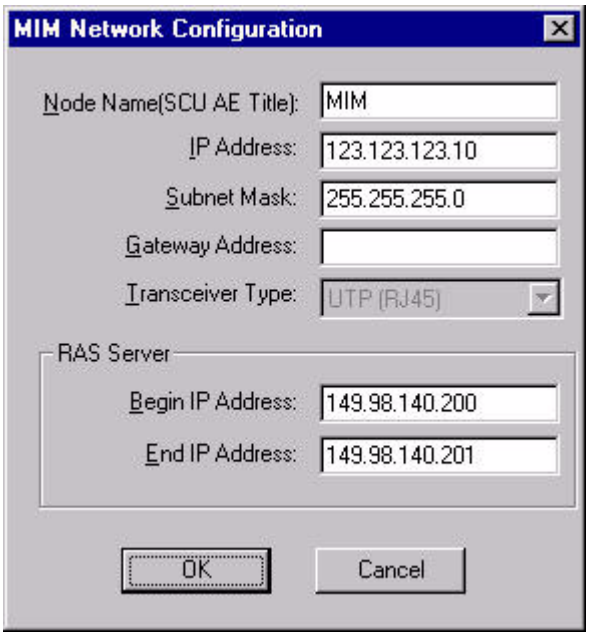
Table 6–1 Input Parameters: Service Tracking Information

Input Parameter	Description	Range
Site/Hospital Name	Where the MIM is located. This appears as an annotation if enabled within the "SCU Connection Database."	1-14 alphanumeric characters
K Number	The K Number assigned to this product by manufacturing. This should match the number on the tag on the side of the MIM.	1 -11 alphanumeric characters
Serial Number	The Serial Number assigned to this product by manufacturing. This number should match the number on the Serial Plate decal on the MIM.	1 - 6 alphanumeric characters
Model	Indicates the type of equipment.	For PRINT SERVERS: MIM 200, 25 PS
Service Code	Indicates the service code of the equipment.	
Power-On-Hours	The number of hours that the MIM has been energized. The software updates this number every hour. This value is used for product reliability analysis.	1 - 6 numeric digits
Service Phone Number	Telephone number of the local Technical Support Center: 1-800-328-2910. For the U.S. only.	0 - 20 alphanumeric characters
NT Product ID	Product ID for setting up the license for the *Windows* NT operating system. Must be unique for each MIM.	4 alphanumeric fields field 1 = 5 characters field 2 = 3 characters field 3 = 7 characters field 4 = 5 characters
MIM Application Version	This is a "view only" field. Shows the version level of the application software. For example: 5.0b12	3 - 19 alphanumeric characters 1st number = release level. Letter = development level, alpha or beta. Last number = sequence number for successive release levels.
Keypad Interfaces	Viewable only.	
Delivery Interfaces	The type of output board installed along with the service code, serial number, board revision and firmware level.	Serial number only. 1-6 alphanumeric characters

Setting Up the Network Address of the PRINT SERVER

The "MIM Service Application" allows you to view and modify the parameters for the TCP/IP and *Ethernet* circuit that are used to set up the MIM as a device on the network. In most MIMs the RJ45 *Ethernet* connector is on the CPU MOTHERBOARD. In some MIMs the RJ45 connector is on a NETWORK BOARD located in a slot in the back of the MIM. In either case, you will use the LAPTOP COMPUTER to set it up.

[1] At the "MIM Service Application" window, select: **Configure>Networ**k.



[2] Determine from the customer if you must change any of the factory default settings in the "MIM Network Configuration" window.

[3] See Table 6-2 on Page 6–5 for descriptions of the parameters in the "MIM Network Configuration" window.

- Node Name: A name that identifies the MIM on the Local Area Network (LAN). The Node Name of a PRINT SERVER is also the COMPUTER name of the MIM.
- IP Address: See Network Administrator
- Subnet Mask: See Network Administrator
- Gateway Address: See Network Administrator
- RAS Server Begin and End IP Addresses: See Network Administrator. The 2 addresses must be sequential, and the End IP Address must be higher than the Begin IP Address.

[4] If you changed any information, click [OK] and update the LABEL on the side of the MIM. If you did not change information, click [Cancel].

Note

Changing the Node Name of the MIM will increase the boot time by up to 4 minutes on the next boot only.

[5] At the message "Changes will take effect the next time the MIM is restarted," click [OK].

[6] Shut down the MIM **from the MIM Service Application Admin menu**, and select **Restart** from the next window.

[7] Go to "Setting Up the Network Input."

Table 6–2 Input Parameters: Network Information

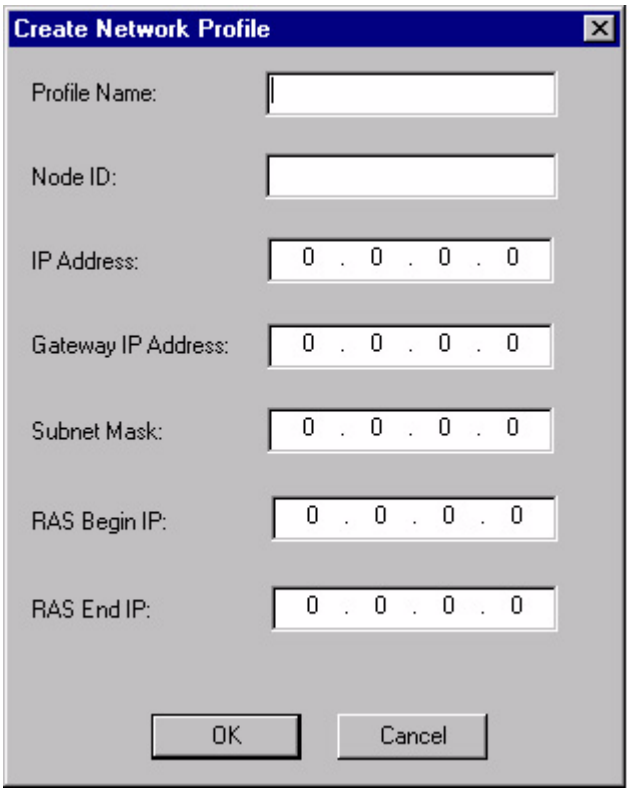
Input Parameter	Description	Range
Node Name	A unique name that identifies the local COMPUTER to TCP/IP. This name should be meaningful for the location. The Node Name for a PRINT SERVER (SCP) is also the computer name of the MIM.	1 - 15 alphanumeric characters plus hyphen: "-"
IP Address	The unique address that identifies a specific node in a network. Add the unique address name to the LABEL on the side of the MIM.	4 fields (1 - 254) in which each field is separated by a period
Subnet Mask	The subnet mask works with the IP address to subdivide the network into more than 1 network.	4 fields (0 - 255) in which each field is separated by a period
Gateway Address	The IP Address of the router used in a wide area network (WAN) configuration. No data in this field is necessary for the "MIM Service Application" software.	4 fields (1 - 254) in which each field is separated by a period
Transceiver Type	The TRANSCEIVER type of the NETWORK BOARD or circuit used for network communications. This is a "view only" field.	UTP (RJ45) is the only option for the MIM 200 or 25 PS. Although the MIM 100 has various options, RJ45 is recommended. These options are available only when using the NETWORK COMBO CARD 10base: • UTP (RJ45) • Thickwire (10 base 5) • Thinwire (10 base 2)
RAS Server Begin IP Address	Beginning IP Address of the RAS Server static address pool. The Begin IP Address must be lower than the End IP Address and located on the same subnet. The Begin and End IP Addresses must be sequential.	4 fields (1 - 254) in which each field is separated by a period
RAS Server End IP Address	Ending IP Address of the RAS Server static address pool. The End IP Address must be higher than the Begin IP Address and located on the same subnet. The Begin and End IP Addresses must be sequential.	4 fields (1 - 254) in which each field is separated by a period

Setting Up Network Profiles for a “Mobile” 25 PS

For a 25 PS installed in a Mobile Van to connect to the network at different customer sites, a different Network Profile for each site is necessary. The IP Addresses can be set up in the “MIM Service Application” or on the KEYPAD by using “Network Profiles.”

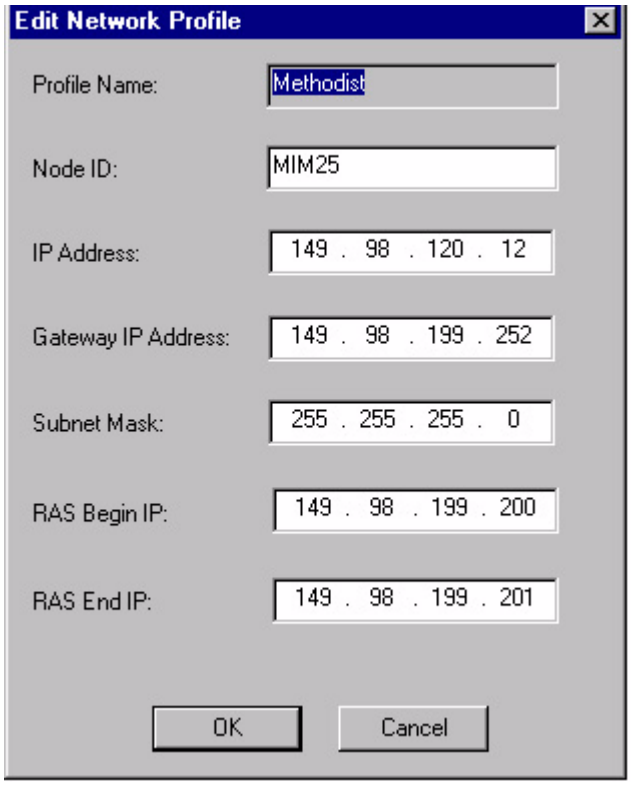
Creating Network Profiles Using the “MIM Service Application”

[1] At the “MIM Service Application” window, select **Configure>Network Profiles**.

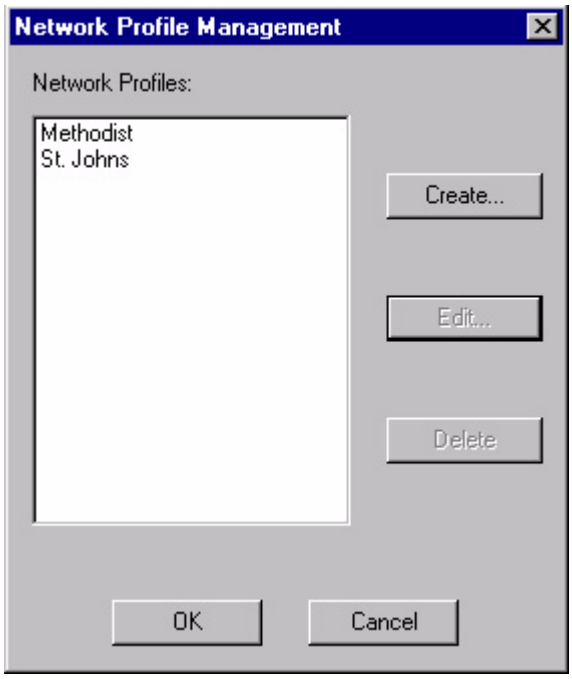


[2] Enter information in the fields of the “Create Network Profiles” window:

- Profile Name: Enter the name of the site.
- Node ID: Enter a name that will identify the 25 PS to TCP/IP, for example: “MIM25.”
- For all Address entries: See the local Network Administrator.



[3] After entering the parameters, click [OK]. The "Network Profile Management" window will display a list of all Profile Names that have been selected for this 25 PS.



Important

The correct Network Profile for each site must be selected at the KEYPAD before the 25 PS can be used at that site. See "Creating Network Profiles at the KEYPAD" on Page 6–8.

[4] After creating the Network Profile, advance to "Setting Up the Network Input."

Creating Network Profiles at the KEYPAD

[1] At the KEYPAD, press [Menu].

[2] On the Main Menu, press the [Down Arrow] until > points to **Service Menu**.

[3] Press [Menu].

[4] On the Service Menu, press the [Down Arrow] until > points to **Configuration Menu**.

[5] Press [Menu].

[6] On the Configuration Menu, press the [Down Arrow] until > points to **Network Profiles**.

[7] Press [Menu].

[8] Use the [Up Arrow] or [Down Arrow] keys to select **Add to Profile**.

[9] Press [Menu].

[10] Select **Add Profile**.

[11] On the Network Profiles menu:

- Use the [Up Arrow} or [Down Arrow] keys to scroll through the alphabet and numbers to select the Profile Name for the site.
- Use the [Up Arrow} or [Down Arrow] keys to select a Node ID name that will identify the 25 PS to TCP/IP, for example “MIM25.”
- Enter all fields. See the local Network Administrator for addresses.

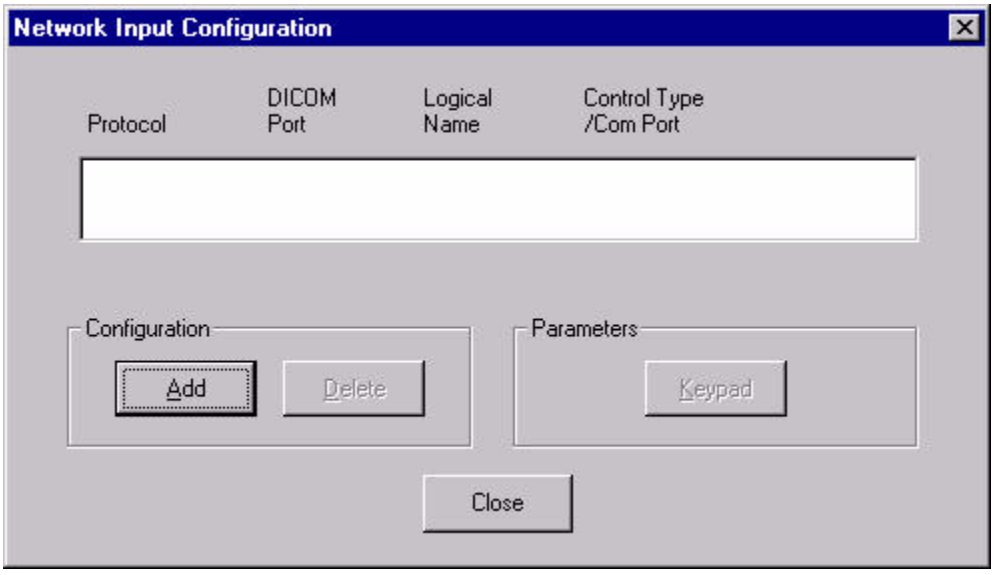
[12] After setting up the Network Profile, advance to “Setting Up the Network input.”

Important

The correct Network Profile for each site must be selected at the KEYPAD before the 25 PS can be used at that site. Network profiles can be Selected, Viewed, Edited or Deleted at the Keypad.

Setting Up the Network Input

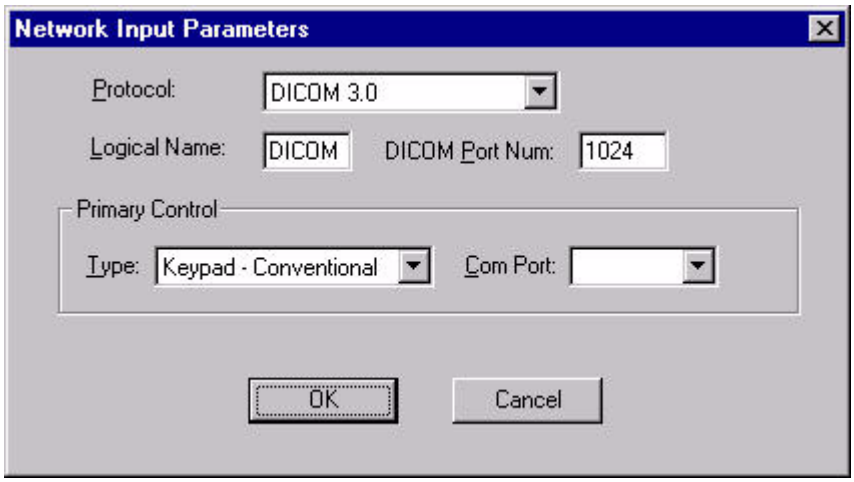
[1] At the "MIM Service Application" window, select **Configure>Input>Network**.



Caution

Changing parameters in this menu will take the system off-line.

[2] Click [Add].



Important

Except to select the "DICOM Port Number" or "Com Port" do **not** change information in the "Network Input Parameters" window. See Table 6-3.

Table 6–3 Network Input Parameter - Settings

DICOM Port Number	Primary Control Type	Primary Control Com Port
Configurable from 1 - 65535. Generally set to 1024 or 5040.	Use default: "Keypad - Conventional"	Port 5, 7, 9 or 11

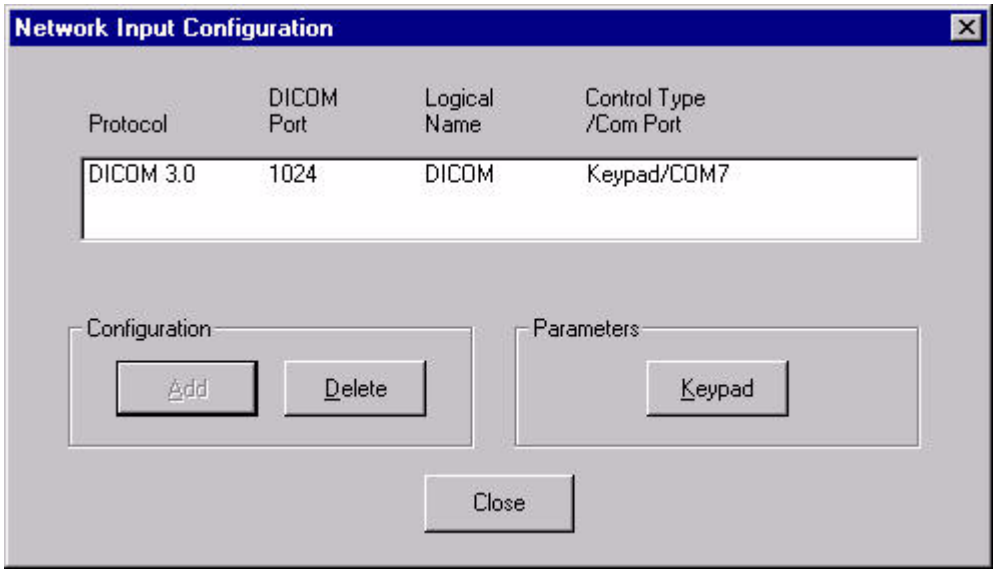
[3] In the pull-down menu for "Com Port" the following are the standard port assignments:

- For MIM 200 2.4 GHz, select COM11.
- For all other MIM 200, select COM9.
- For 25 PS, select COM5.

Note

Com Port assignments may need to change for Combo boxes. See Table 6-4 on Page 3–8 for the functions and locations of COM ports for all MIMs.

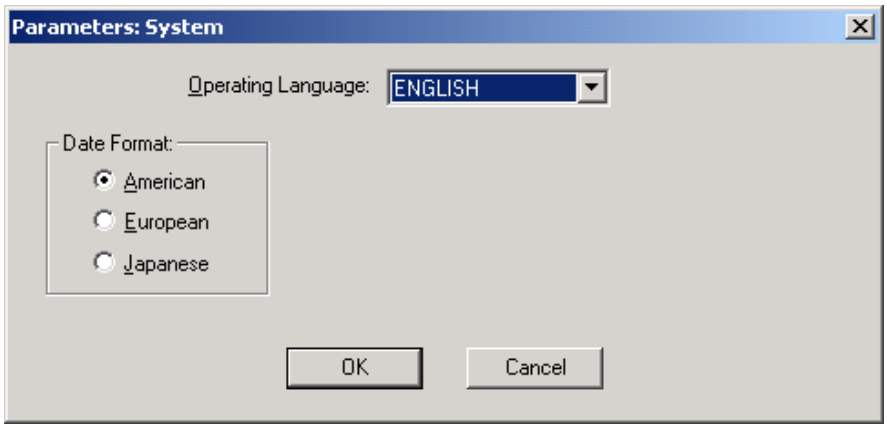
[4] Click [OK].



[5] Click [Close].

Setting Up the KEYPAD for Date Format and Operating Language

[1] At the "MIM Service Application" window, select **Configure>Input>Keypads>Modify**.



Caution

Changing these parameters will take the system off-line.

[2] Select the Operating Language from the Pull-down Menu.

[3] Select either the "American" or "European" format for display of the date.

[4] To store this configuration, click [OK].

Setting Up the KEYPAD for Correct Time Zone

This procedure applies to both the DISPLAY KEYPAD and the PRINT KEYPAD.

[1] On the KEYPAD, press [Menu].

[2] On the "Main Menu," press the [Down Arrow] until > points to **Service Menu**.

[3] Press [Menu].

[4] On the "Service Menu," press the [Down Arrow] until > points to **Machine Setup Menu**.

[5] Press [Menu].

[6] On the "Machine Setup Menu," press the [Down Arrow] until > points to **Select Time Zone**.

[7] To select the time zone:

- Press the [Up Arrow} or [Down Arrow] until > points to the correct time zone.
- Press [Menu] to select the time zone.
- Press [Menu] to exit.

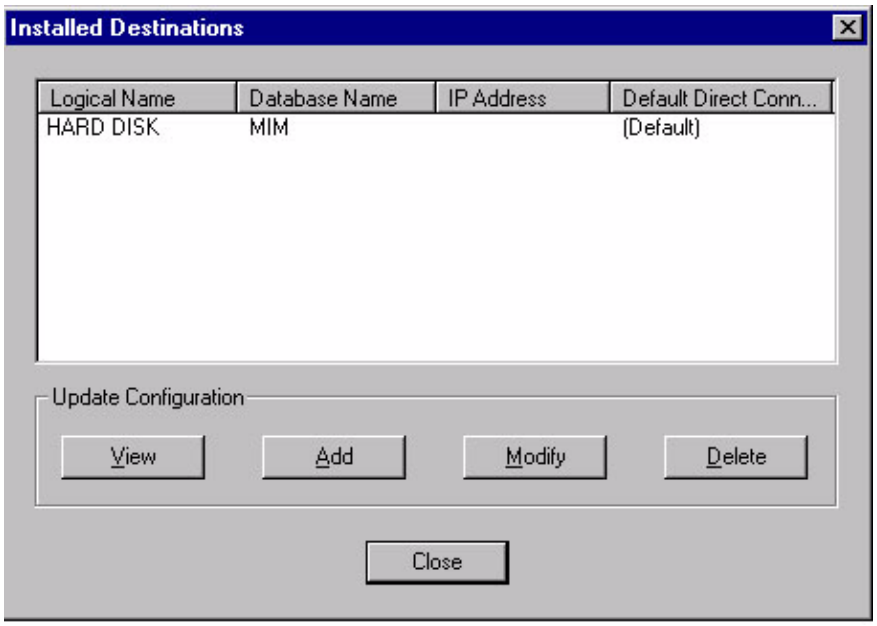
Setting Up the Destination - Single PRINTER Setups

This procedure applies to MIMs with single PRINTER destinations. If the system includes an 8800 MULTI-INPUT MANAGER or 969 HQ IMAGER that controls 2 destinations, do not do this procedure. Advance to "Setting Up the Destination - Dual PRINTER Setups" on Page 6–16 and do the procedure for setting up dual PRINTER destinations.

Important

See the Tables and this information for the Destination Parameters.

[1] At the "Service Application" window, select **Configure>Destination**.



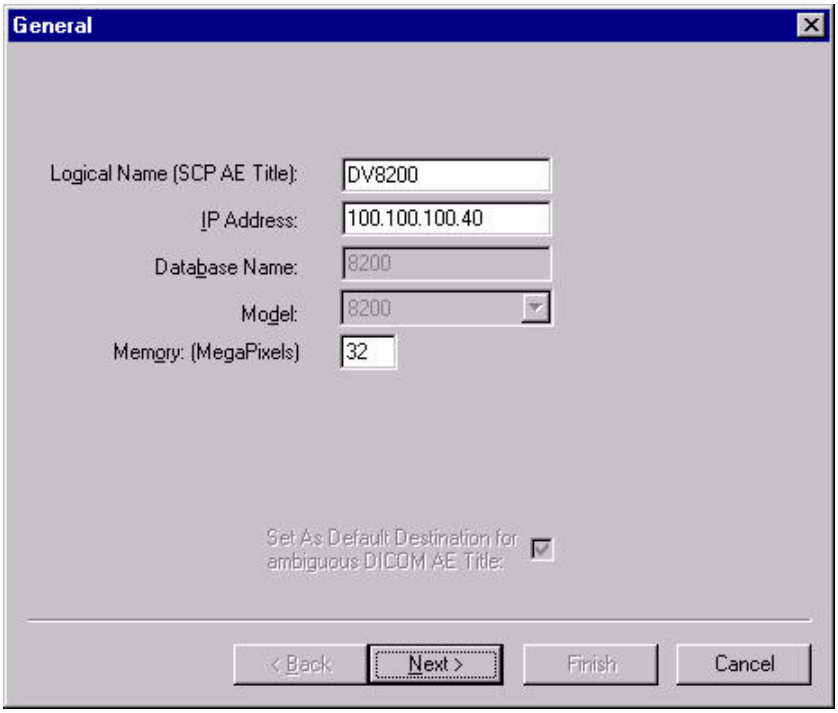
Note

With any type of CABLE, a printing or imaging destination connected to the MIM is a **direct** connection.

[2] At the "Installed Destinations" window, select the sequence:

- [Add]
- [Print]
- [Direct]
- [Qualified]

[3] At the "Choose a New Direct Print Destination" window, select the correct PRINTER and click [OK].



Important

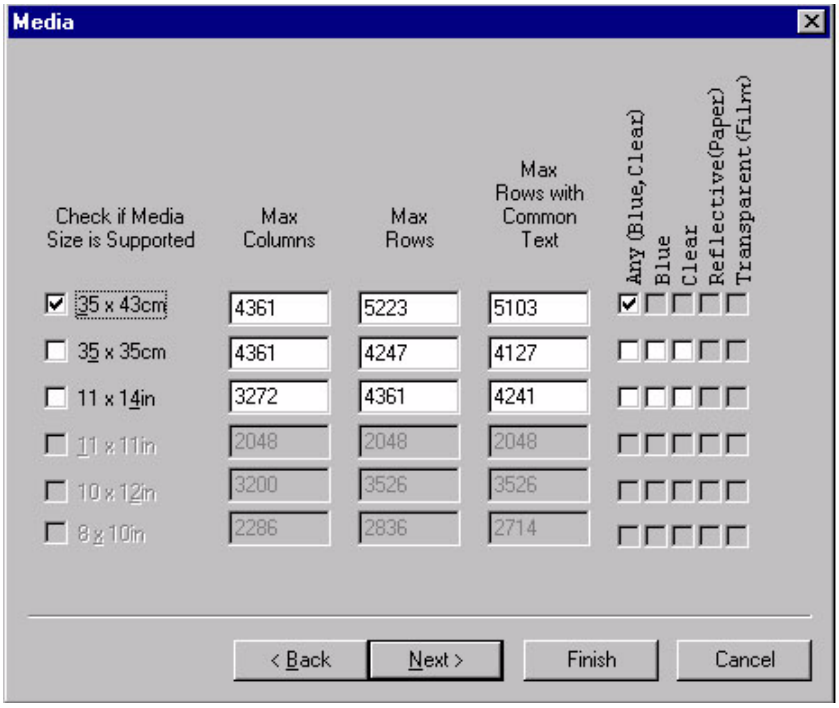
The information in the General parameters window depends on the destination PRINTER. The window in the figure is for an 8200 LASER IMAGER destination on an *Ethernet* cable. See Table 6-4 "General Parameters" on Page 6–21 for descriptions of all parameters that can be displayed.

The Logical Name for a PRINT SERVER is also the AE Title for the PRINTER.

[4] At the General parameters window, enter:

- Logical Name - User defined. This is the AE Title the SCU should target.
- IP Address - Necessary only if an *Ethernet* OUTPUT BOARD is used.
  - 100.100.100.40 for 8200 LASER IMAGERS
  - 100.100.100.30 for 160 LASER IMAGERS
- Memory, Image Pixels - 32
- Node ID - 0 to 6. Necessary only for 1120 and 2180 LASER PRINTERS.

[5] Click [Next].



Note

The numbers the "Media" information window displays on the LAPTOP COMPUTER might not match the numbers displayed on the window above.

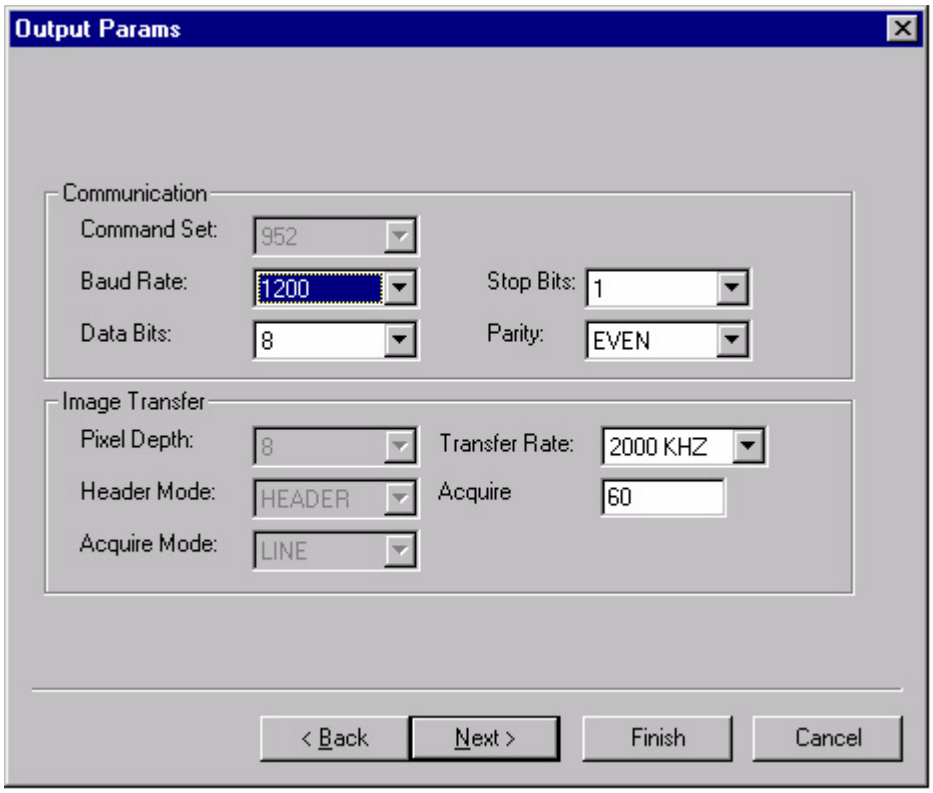
[6] In the "Media" window, select **all** media that the customer will use. Check with the customer on film sizes. The table shows all film sizes allowed by LASER IMAGERS/PRINTERS for Kodak.

Film Size	IMAGERS/PRINTERS
35 x 43 cm	8100, 8200, 8700, 969HQT, 160 LASER IMAGERS; 1120 and 2180 LASER PRINTERS
35 x 35 cm	8200 LASER IMAGER; 1120 and 2180 LASER PRINTERS
11 x 14 in.	8200, 8500 LASER IMAGERS; 1120 and 2180 LASER PRINTERS
8 x 10 in.	8300, 8600, 969HQ LASER IMAGERS; 1120 and 2180 LASER PRINTERS

Important

You must select a media base for each medium selected. See "Format Parameters" on Page 6–27.

[7] If the destination printer is a *Kodak DryView* LASER IMAGER, click [Next]. The "Output Parameters" window will display for some *Kodak DryView* LASER IMAGERS.



[8] If the "Output Parameters" window displays, check that the Output Parameters agree with the set up of the LASER IMAGER.

Important

The application software automatically selects defaults for the destination parameters. To select values other than the defaults, you must use the "Supported Items" windows for the other groups of parameters.

[9] Click [Finish] to select the defaults for these destination parameters:

- Supported Items
- Interpolation
- Format Types
- Page Formatting
- Image Processing
- M952 Usage

Note

When [Finish] is clicked, the "Installed Destinations" window will display and the MIM will process the parameter information.

[10] When processing is completed, click [Close].

[11] Advance to "Completing Configuration of the Destinations."

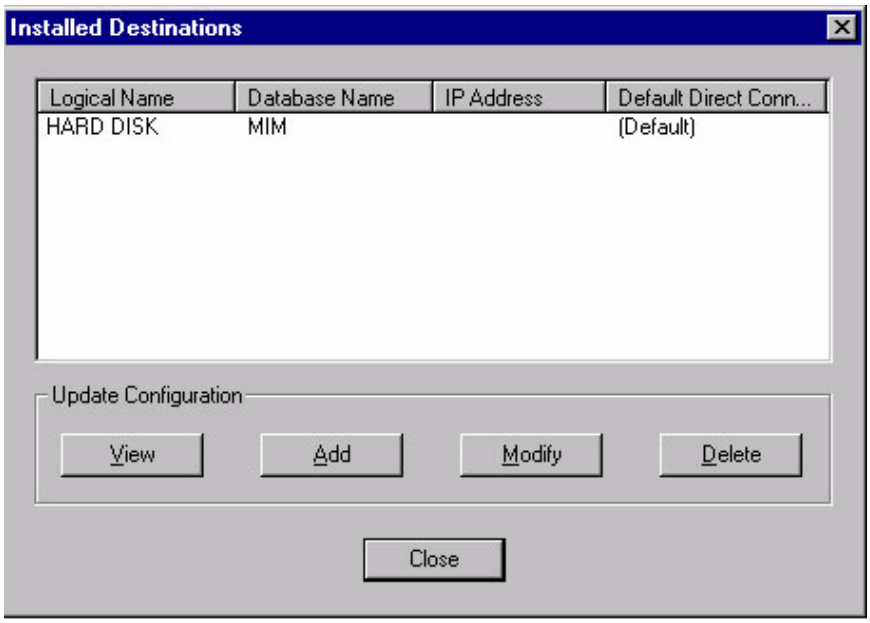
Setting Up the Destination - Dual PRINTER Setups

This procedure applies to applications that include an 8800 MULTI-INPUT MANAGER or 969 HQ LASER IMAGER that controls 2 destinations.

Important

See the Tables and this procedure for detailed information on the Destination Parameters.

[1] At the "Service Application" window, select **Configure>Destination**. The "Installed Destinations" window will display.

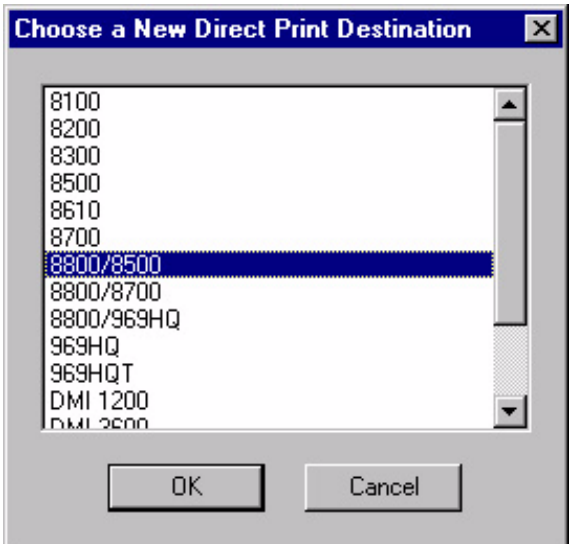


Note

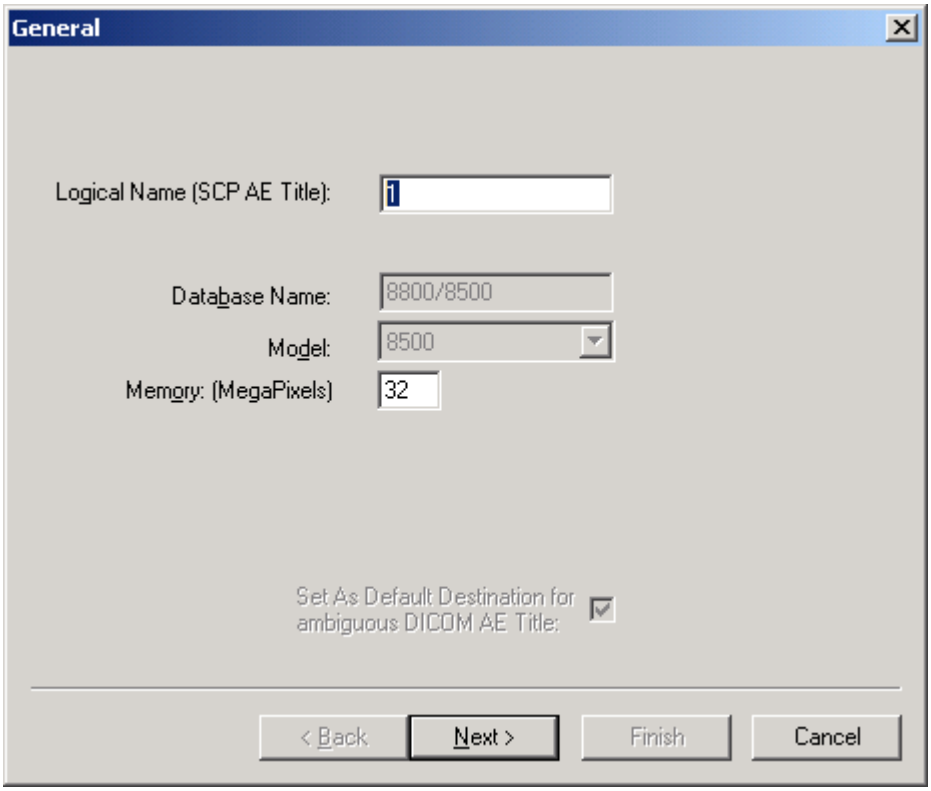
If a printing destination is connected to the MIM, it is a **direct** connection, regardless of CABLE connection type.

[2] At the "Installed Destinations" window, select the sequence:

- [Add]
- [Print]
- [Direct]
- [Qualified]



[3] At the "Choose a New Direct Print Destination" window, select the correct destination from the list: 8800/8500, 8800/8700 or 8800/969HQ. Then click [OK].



Important

The Logical Name for a PRINT SERVER is also the AE Title for the PRINTER. The SCU selects a PRINTER by Logical Name (AE Title).

[4] At the General parameters window, enter:

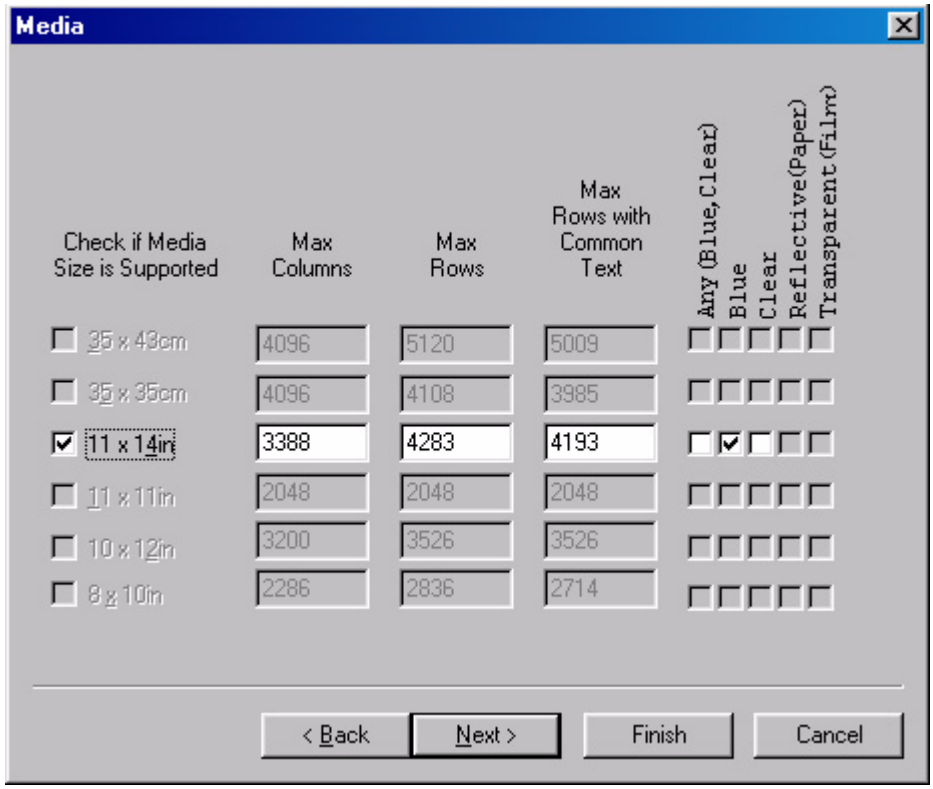
- Logical Name - The 2 destinations must be set up separately. Name them correctly. For example, call the first destination 8800_prtA and the second destination 8800_prtB.
- Memory, Image Pixels - 32

[5] If the first destination is the default destination, enter a check mark in the field for "Set As Default Destination for ambiguous DICOM AE Title:"

Note

This destination is where films will be printed if the SCU targets an AE Title tha is not an exact match fo the Logical Name.

[6] Click [Next].



Note

The numbers that the "Media" information window displays on the LAPTOP COMPUTER might not match the numbers displayed in the window above.

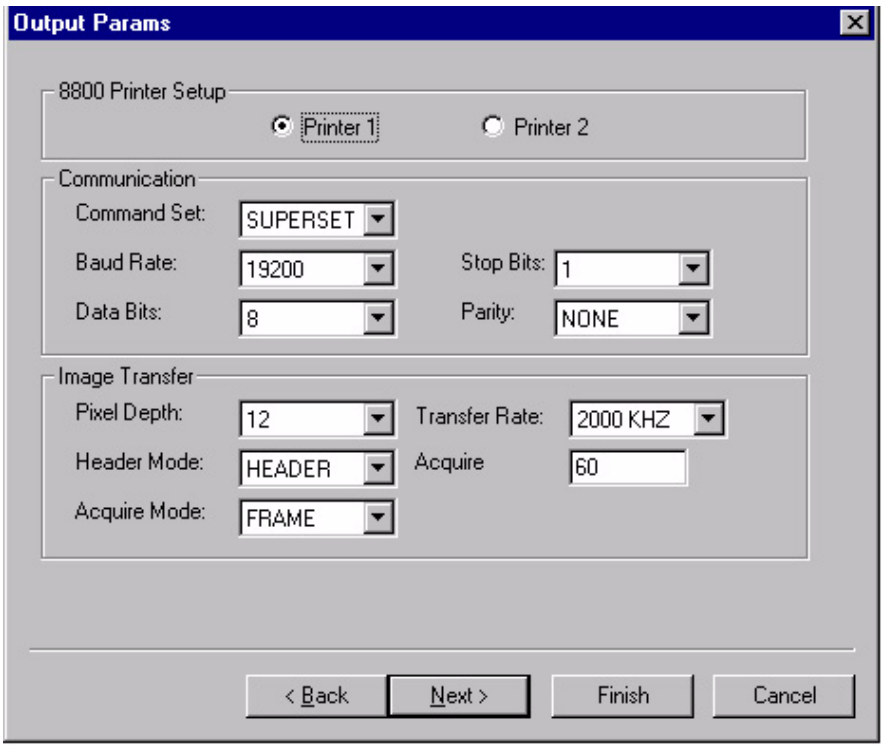
[7] In the "Media" window, select **all** media that the customer will use. Check with the customer, if necessary, on film sizes. The table shows the correct film sizes for the *Kodak DryView* 8800 DUAL PRINTERS.

Film Size	PRINTERS
35 x 43 cm	8800 MULTI-INPUT MANAGER/8700 LASER IMAGER; 8800 MULTI-INPUT MANAGER/969HQ LASER IMAGER
11 x 14 in.	8800 MULTI-INPUT MANAGER/8500 LASER IMAGER; 8800 MULTI-INPUT MANAGER/969HQ LASER IMAGER
8 x 10 in.	8800 MULTI-INPUT MANAGER/969HQ LASER IMAGER

Important

You must select a media base for each medium selected. See "Format Parameters" on Page 6–27.

[8] Click [Next] to display the "Output Parameters" window.



[9] Select "Printer 1" at the top of the "Output Parameters" window.

[10] Set the "Communication" variables to match those of the 8800 MULTI-INPUT MANAGER.

[11] Set the "Image Transfer" variables to match those of the 8800 MULTI-INPUT MANAGER. Pay special attention to: "Pixel Depth," Acquire Mode," and "Transfer Rate."

Note

The application software automatically selects defaults for these groups of destination parameters. To select values other than the defaults, advance to the "Supported Items" windows.

[12] Click [Finish] to select the defaults for these destination parameters:

- Supported Items
- Interpolation
- Format Types
- Page Formatting
- Image Processing
- M952 Usage

Note

When [Finish] is clicked, the "Installed Destinations" window will display and the MIM will process the parameter information.

[13] When processing is completed, click [Close].

[14] Return to "Setting Up the Destination - Dual PRINTER Setups" on Page 6–16 , Step 1, and set up the second destination. For the second destination in a dual PRINTER setup:

- In Step 3, select the **second** destination.
- In Step 4, enter the Logical Name for the **second** destination. This name should be logically related to the name for the first destination.
- In Step 5, if the second destination is to be the default destination, enter a check mark in the field for "Set As Default Destination for ambiguous DICOM AE Title:".
- In Step 9, the second destination, "Printer 2," will automatically be selected.

[15] Advance to "Completing Configuration of the Destinations" below.

Completing Configuration of the Destinations

[1] Check that you correctly set up the destination(s) by running a test print.using “MIM Service Application” **Diagnostics>System**.

[2] After completing configuration of the PRINT SERVER, advance to:

Type of System	Go To:
PRINT SERVER	Section 8. “Obtaining Optimum Images”
COMBO BOX	Section 7. “Setting Up a MODALITY Server”

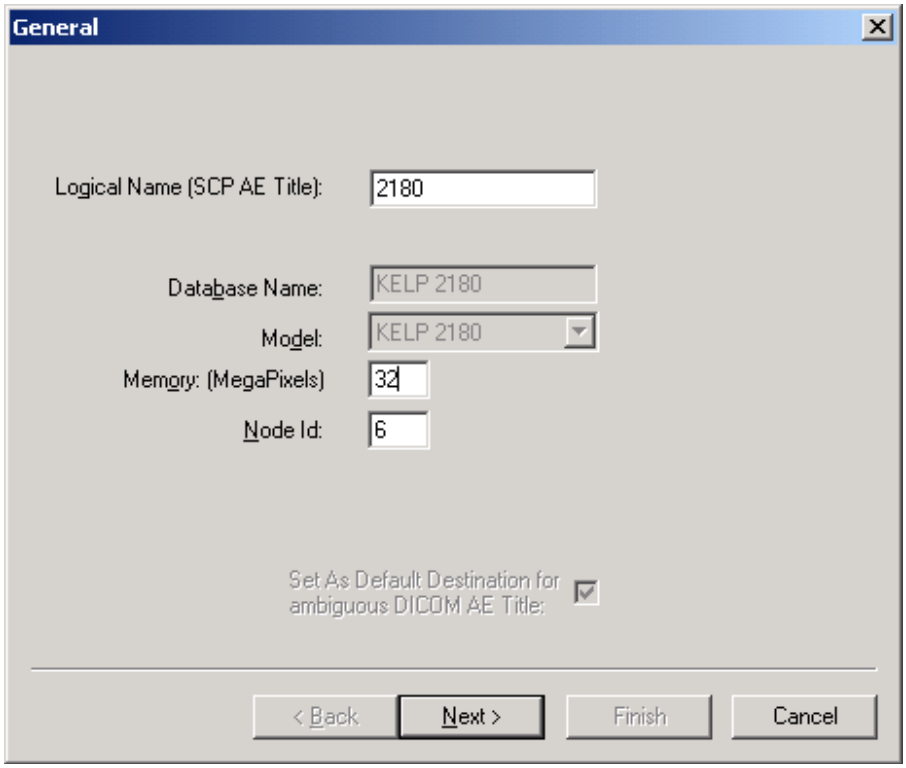
Parameter Tables

Important

Do not change any of the items in the tables for a **qualified** destination unless directed by the TSC. If an item is not checked in the “Supported Items” or “Media Information” windows, the customer will not be able to use that item.

- The KEYPAD of the MIM will **not** display a feature or function that is not allowed.
- The MIM will **not** recognize a request for an item that the destination does not support.

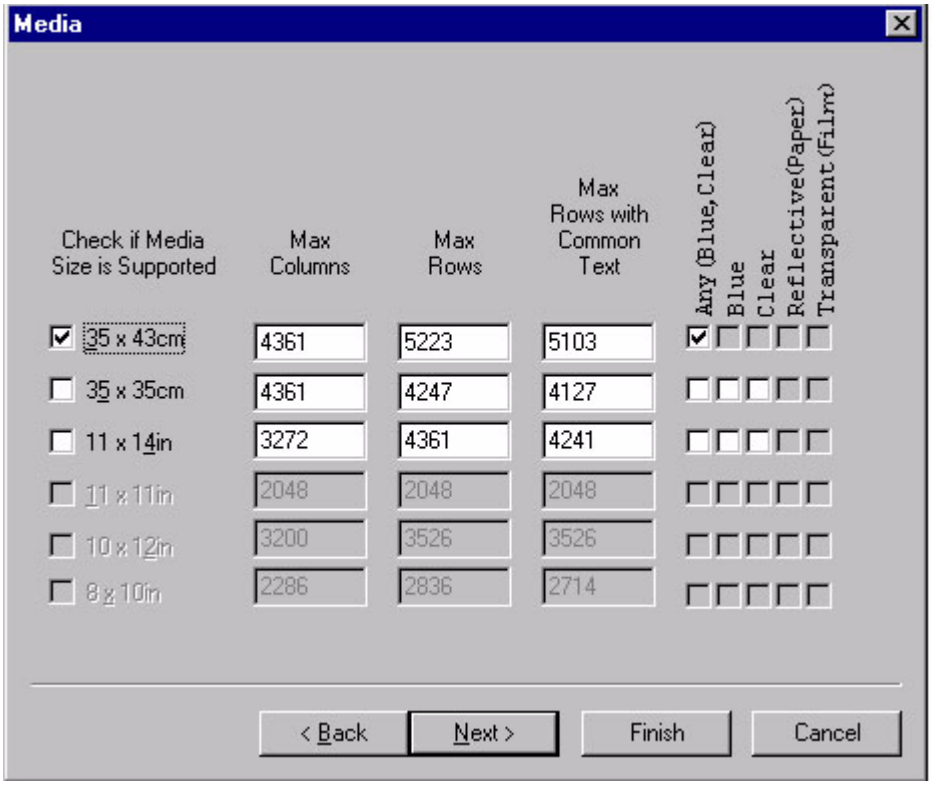
Table 6–4 General Parameters



Item	Description	ngenge
Logical Name	Site-specific name that must be entered for a Destination. The “Logical Name” is also the “SCP AE Title” for the destination and is used by any SCU that wants to use this destination. A unique logical name for the MIM is necessary across all currently installed destinations.	1 - 9 alphanumeric characters **No** spaces allowed. Underscores and hyphens are allowed.
IP Address	Site-specific address that uniquely identifies the Destination on the network. Necessary only when the destination and input to the PRINT SERVER are on an *Ethernet* cable. Duplicate IP Addresses for installed destinations are allowed if the DICOM AE Titles are unique for each Destination.	4 fields of 0 - 255 where each field is separated by a period: For example: 149.110.98.10.
Database Name	The name of the Destination, if it is being installed using a known destination from the qualified destination database. This is a “view only” field.	1 - 13 alphanumeric characters.
Model	The model of the Destination. The product uses this data to optimize the page format validation for the particular Destination. This is a “view only” field.	1 - 12 alphanumeric characters. 1120 and 2180 LASER PRINTERS, *Kodak Dryview* LASER IMAGERS, 160 LASER IMAGER, *Kodak DryView* PACS LINK 9410 ACQUISITION SYSTEM.

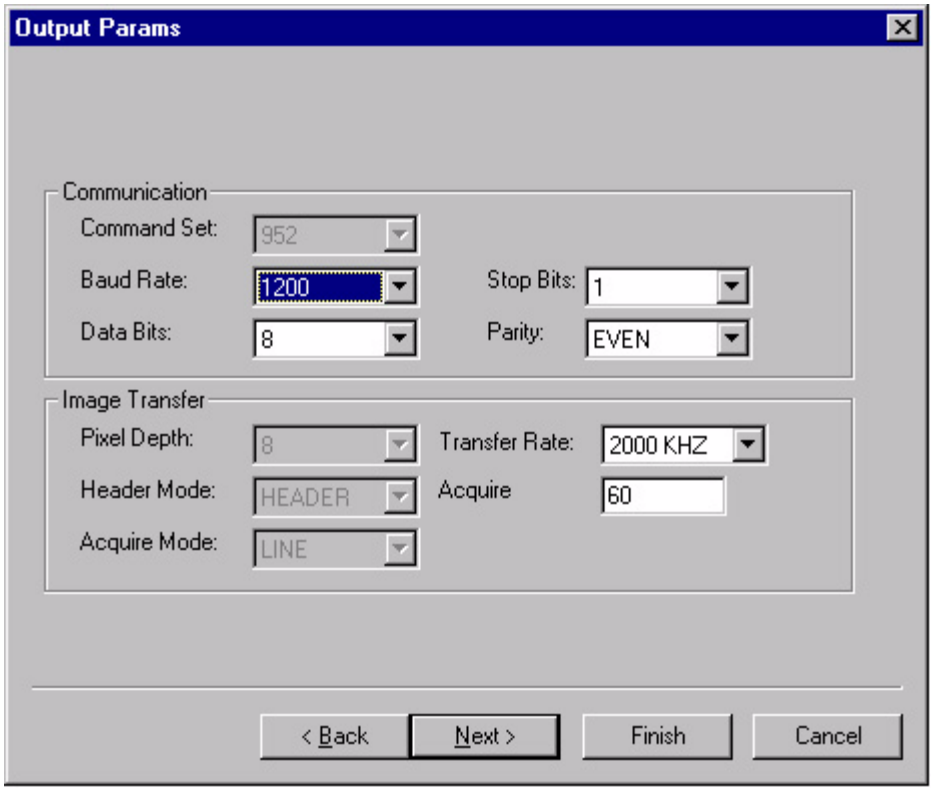
Item	Description	ngenge
Memory	Memory in mega pixels residing in the Destination. The product uses this value to do format validation. This value is site-specific. A value must be in this field for the "MIM Service Application."	1 - 128. For 2180 and 1120 LASER PRINTERS, obtain page store information from the PRINTER'S CES port. For *Kodak DryView* LASER IMAGERS, obtain by setting General log level to 5 after LASER IMAGER is installed and checking "Available Memory = log output" with system in Idle state.
Node ID	The node assigned to the CPOI BOARD in the 1120 or 2180 LASER PRINTER. Node ID must be unique and not conflict with any Node IDs assigned to any CP Interfaces installed in the PRINTER. A value must be in this field for the "MIM Service Application."	1 - 6. Default is 6.

Table 6–5 Media Information Parameters



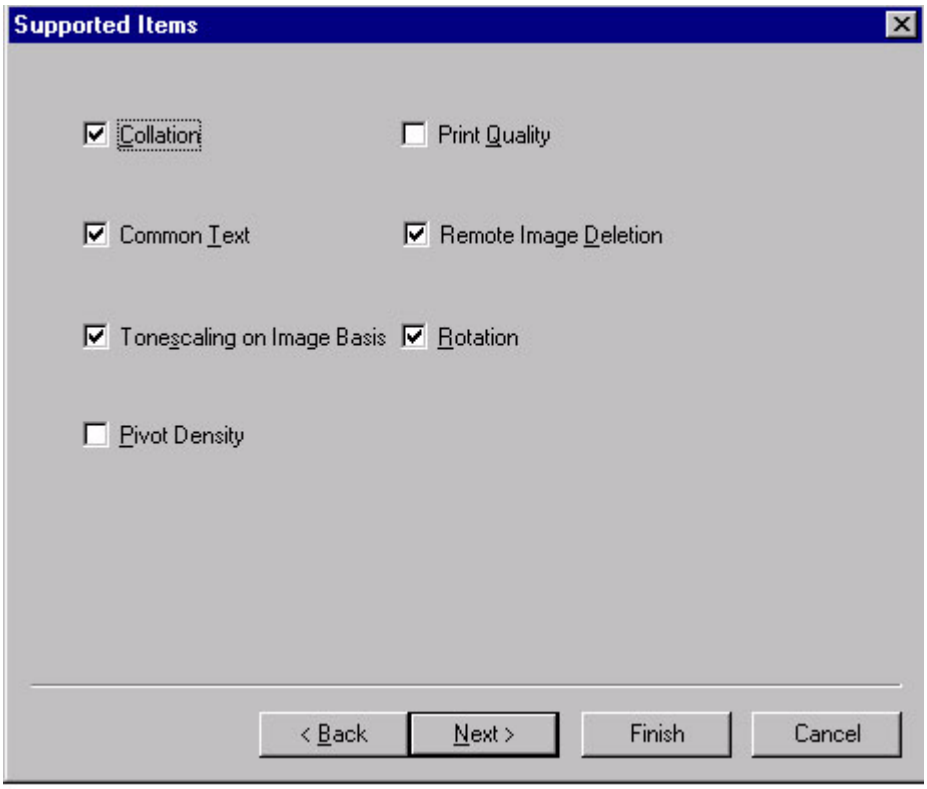
Item	Description	Range
[**Media Info**]	Select [Media Info] to display the Media Information in this table.	N/A
Size	Media sizes recognized by the Destination.	35 x 43 cm, 35 x 35 cm, 11 x 14 in., 10 x 12 in., 8.5 x 11 in., 8 x 10 in., 4 x 6 in., A4
Maximum Columns	Maximum number of pixels in the x-direction for a media size. Maximum columns can be selected for each media size. The MIM uses this parameter to validate the format.	1 - 9999
Maximum Rows	Maximum number of pixels in the y-direction for a media size. Maximum rows are selectable for each media size with or without “common” text. The MIM uses this parameter to validate the format.	1 - 9999
Maximum Rows with Common Text	Maximum number of pixels in the y-direction for a media size. Maximum rows can be selected for each media size with or without “common” text. The MIM uses this parameter to validate the format.	1 - 9999
Types	Media types recognized by the Destination. Media types can be selected for each media size. “Any” indicates that the Destination will use the media type that matches the media size selected (blue or clear). The selections “Reflective” and “Transparent” are valid for color printing.	Any, Blue, Clear, Reflective (Paper), Transparent (Film).

Table 6–6 Output Parameters



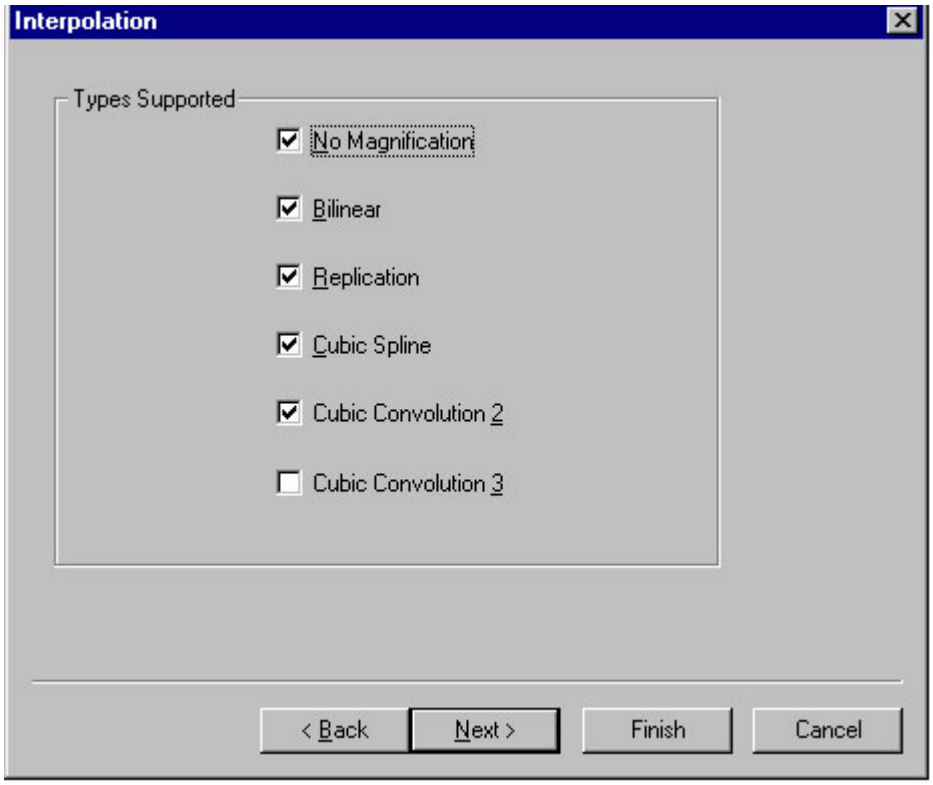
Item	Description	Range
Command Set	Used for data transmission to the direct destination.	952 or SuperSet
Baud Rate	Baud rate of the SERIAL PORT for data transmission to the direct destination.	300, 600, 1200, 2400, 4800, 9600, 19200, 38400
Data Bits	Number of data bits in each pixel in the data transmission on the SERIAL PORT.	5, 6, 7, 8; Default 8
Stop Bits	Number of stop bits in each pixel the data transmission on the SERIAL PORT.	1, 1.5, 2; Default 1
Parity	Parity setting for the data transmission on the SERIAL PORT.	None, Even, Odd
Pixel Depth	Depth of the pixel data that the MIM will send in a data packet.	8, 12; Default 8
Header Mode	Determines if the MIM will send a header with the data packet to the direct destination OUTPUT BOARD. The header includes the size of the acquired image. If “No Header” is selected, the size of the acquired images must remain constant.	No Header, Header; Default Header
Acquire Mode	Determines whether the acquire mode for the digital input port will be Line or Frame. If Line, the data comes across 1 line at a time.	Line, Frame
Transfer Rate	Data transfer rate of the digital image port from the MIM to the direct destination. Applies only to the COPPER OUTPUT (COPCIL) BOARD.	1000, 2000, 4000 KHz
Acquire Timeout	Time interval allowed to transfer the image from the MIM to the direct destination.	1 - 90 seconds; Default 60

Table 6–7 Parameters for "Supported Items"



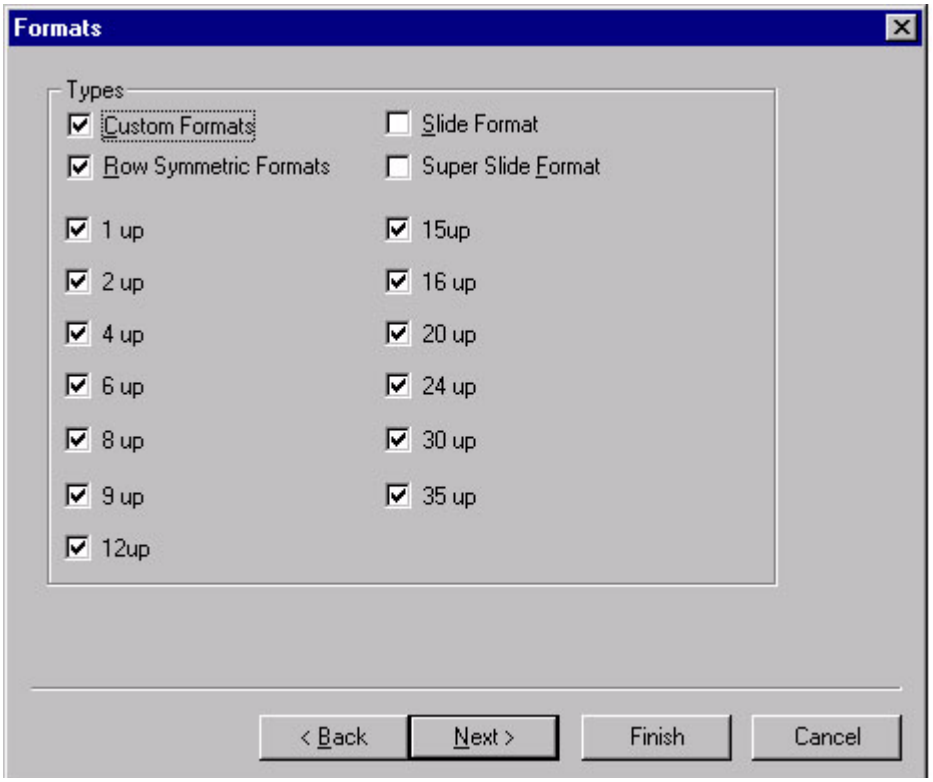
Item	Description	Range
[**Supported Items**]	Select [Supported Items] to display the features in this table.	N/A
Collation	Enables "study mode operation" at the KEYPAD and has the Destination print all of the films that are in the same "study." Select if the destination allows Collation.	Yes, No
Common Text	Enables the user to enter "common" text information including the macros for time/date, etc. at the KEYPAD for printing at the bottom of each film. This parameter will also be used by the MIM when doing format validation. Select if the destination allows Common Text.	Yes, No
Tonescaling on Image Basis	Enables the changing of curve shape in the middle of a page and selecting a curve shape series from the KEYPAD.Select if the destination allows Tonescaling on Image Basis.	Yes, No
Pivot Density	Enables the selection of a pivot density setting from the KEYPAD. Select if the destination allows Pivot Density.	Yes, No
Print Quality	Enables the selection of print quality to be used when printing the page from the KEYPAD. Select if the destination allows different Printing Qualities.	Yes, No
Remote Image Deletion	Allows images acquired from the imaging source/image node to be sent to the destination. Select if the destination allows Remote Image Deletion.	Yes, No
Rotation	When enabled, allows the user to select "landscape" for a page format that is normally "portrait" and vice versa. Also used by the MIM when validating the format. Select if the MIM allows page Rotation.	Yes, No

Table 6–8 Interpolation Parameters



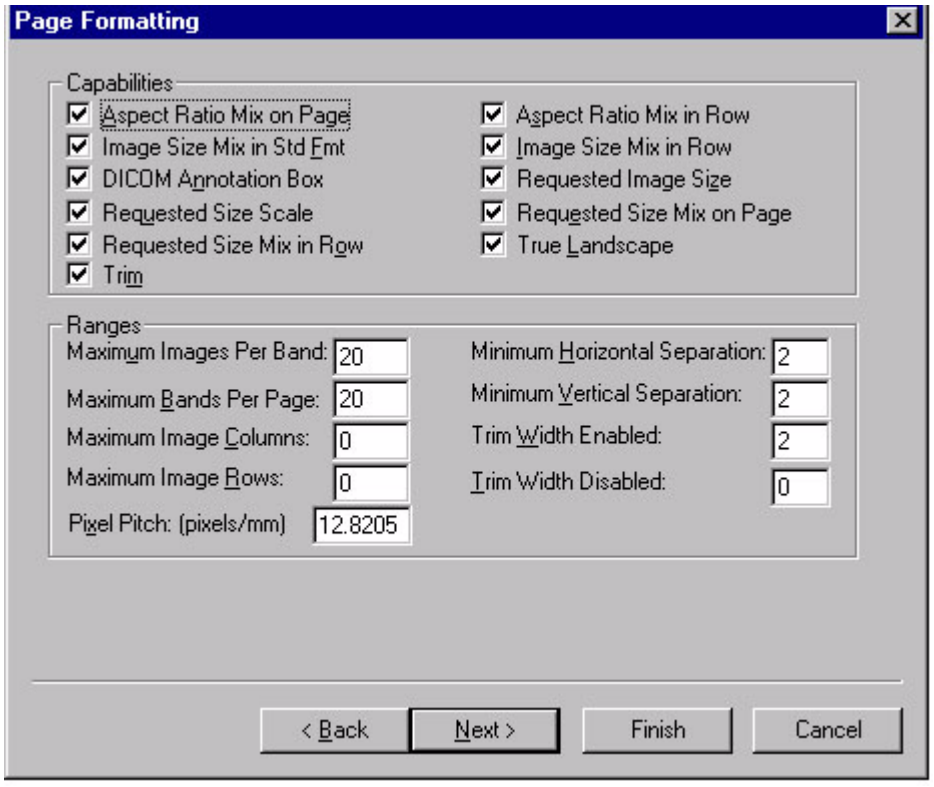
Item	Description	Range
[**Interpolation**]	Select [Interpolation] to display the features in this table.	N/A
	Interpolation enables you to select an interpolation process from the KEYPAD or from other inputs.	No Magnification, Bilinear, Replication, Cubic Spline, Cubic Convolution 2, Cubic Convolution 3

Table 6–9 Format Parameters



Item	Description	Range
[**Formats**]	Select [Formats] to display the information indicated in this table.	N/A
Custom Formats	Custom formats enable the user to select formats 101 and 102 from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Row Symmetric Formats	Enables the user to enter formats that only have 1 line of symmetry in the vertical direction from an Autofilming Link or through a DICOM network. The MIM uses this parameter to validate the format.	Yes, No
Slide Format	Enables the user to select the “slide format” from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Super Slide Format	Enables the selection of super slide format from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Allowable Formats	A list of formats that the destination allows. This list can be customized to control what destination the user sees. Each format (1up, 2up, 4up, etc.) has a setting.	Yes, No

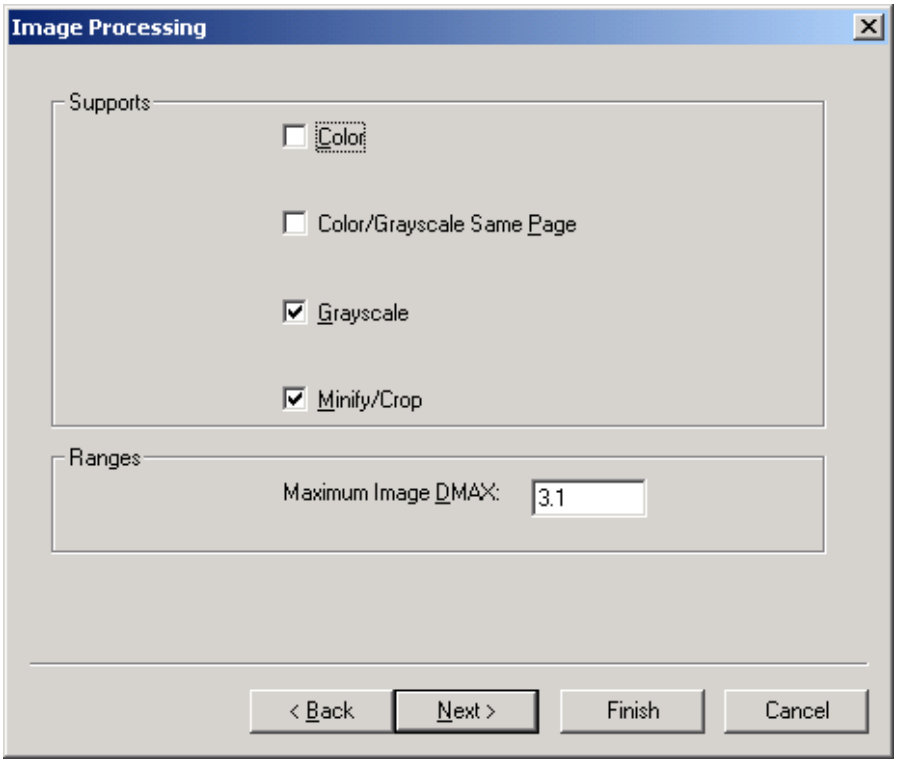
Table 6–10 Page Formatting Parameters



Item	Description	Range
[**Formatting Parameters**]	Select [Formatting] to display the information in this table.	N/A
Aspect Ratio Mix on Page	Select if the destination allows a mixed aspect ratio on the same page. The MIM uses this parameter when it validates the format.	Yes, No
Image Size Mix in Std Fmt	Select if the destination allows a mixed image size on a format. This indicates if the image size can be changed on a page with a row/column symmetric format. The images will be scaled independently to print all of the images at the same time. The MIM uses this parameter when it validates the format.	Yes, No
DICOM Annotation Box	Select if the destination allows page annotation. This indicates if the destination allows the use of the DICOM Annotation Box for selecting the band of text that will be placed on each film. The MIM uses this parameter when it validates the format.	Yes, No
Requested Size Scale	Select if the destination allows the requested image to be scaled to fit the image cell on the destination. The PRINTER will notify the output that the operation was completed. The MIM uses this parameter when it validates the format.	Yes, No
Requested Size Mix in Row	Select if all images in a row should have the same requested size. The MIM uses this parameter when it validates the format.	Yes, No
Trim	Select if the destination allows Trim. This allows the user to select a border around each image from the KEYPAD or from other input devices.	Yes, No
Aspect Ratio Mix in Row	Select if the destination allows Mixed aspect ratio in the same row. The MIM uses this parameter when it validates the format.	Yes, No
Image Size Mix in Row	Select if the destination allows a mixed image size in row. This indicates if the image size can be changed in a row independent of the page format. The MIM uses this parameter when it validates the format.	Yes, No
Requested Image Size	Select if the destination allows the user to request an image size. This indicates if the destination can print images at a specific size.The MIM uses this parameter when it validates the format.	Yes, No

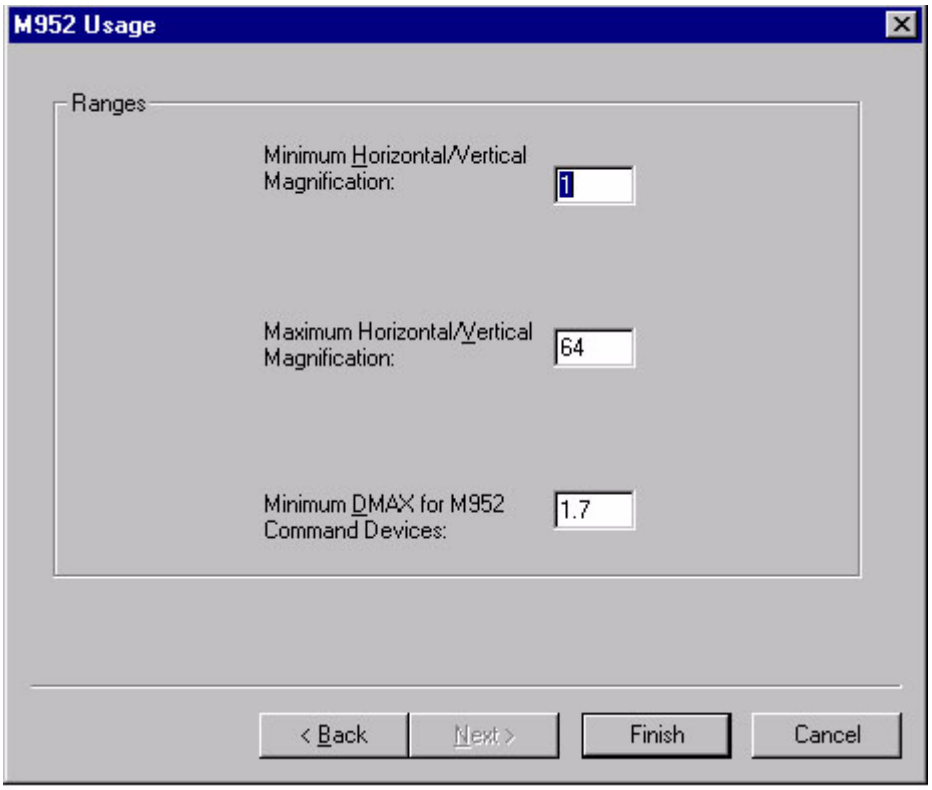
Item	Description	Range
Requested Size Mix on Page	Select if all images on the page should have the same requested size. The MIM uses this parameter when it validates the format.	Yes, No
Supports True Landscape	Select if the destination allows a true landscape orientation.	Yes, No
Maximum Images Per Band	Enter the maximum images per band allowed by the destination.	1 - 32
Maximum Bands Per Page	Enter the maximum bands per page that is allowed by the destination.	1 - 32
Maximum Image Columns	Enter the number of maximum image columns that are allowed by the destination	0 - 5000
Maximum Image Rows	Enter the number of maximum image rows that are allowed by the destination.	0 - 5400
Pixel Pitch	Enter the number of pixels per millimeter for the destination.	0 - 32
Minimum Horizontal Separation	Enter the number of columns that separate images in the horizontal direction.The MIM uses this parameter when it validates the format.	0 - 20
Minimum Vertical Separation	Enter the number of rows that separate image bands in the vertical direction. The MIM uses this parameter when it validates the format.	0 - 10
Trim Width - When Enabled	Enter the number of pixels reserved around the border of an image in the x and y direction when trim is on. The MIM uses this parameter when it validates the format.	0 - 5
Trim Width - When Disabled	Enter the number of pixels reserved around the border of an image in the x and y direction when trim is not on. The MIM uses this parameter when it validates the format.	0 - 5
Image Pad	Enter the number of pixels reserved around the border of an image in the x and y direction. The MIM uses this parameter when it validates the format.	0 - 10

Table 6–11 Image Processing Parameters



Item	Description	Range
[**Image Processing**]	Select [Image Processing] to display the information indicated in this table.	N/A
Color	Select if the destination allows color images.	Yes, No
Color/Grayscale Same Page	Select if the destination allows the user to place color and grayscale images on the same page.	Yes, No
Grayscale	Select if the destination allows grayscale images.	Yes, No
Minify/Crop	Formerly Decimation. Indicates if the destination can recognize images with actual dimensions that exceed the dimensions of the printable film area. Select if the destination allows Minify/Crop.	Yes, No
Maximum Image DMAX	Enter the maximum image DMAX value that is allowed by the destination.	0.0 - 3.8

Table 6–12 M952 Usage Parameters



Item	Description	Range
[**M952**]	Select [M952] to display the information indicated in this table.	N/A
Minimum Horizontal/Vertical Magnification	Enter the minimum Horizontal and Vertical Magnification value that is allowed by the destination. This parameter does not apply to store destinations.	0.64
Maximum Horizontal/Vertical Magnification	Enter the maximum Horizontal and Vertical Magnification value that is allowed by the destination. This parameter does not apply to store destinations.	0.64
Minimum DMAX for M952 Command Devices	Enter the minimum DMAX value that is allowed by the destination when mapping to click counts.	1.5 - 2.0

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Section 7: Setting Up a MODALITY SERVER

Introduction

This section provides instructions for setting up the following devices to function as MODALITY SERVERS:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200)
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 (MIM 100)

Before doing the procedures in this section, check that:

- The LAPTOP COMPUTER has the current "MIM Service Application" software. See Section 2.
- The system hardware and CABLES have been installed. See Section 3.
- The software for the MIM is correct. If this installation is an **upgrade**, the MIM must have:
  - The correct application software for the MIM. See Section 4.
  - The necessary software licenses. See Section 4.

The following pages include instructions for:

- ❒ Checking Service Tracking
- ❒ Setting Up the MODALITY SERVER for the Network
- ❒ Setting Up the Input for a DIGITAL INTERFACE BOARD
- ❒ Setting Up the Input for a VIDEO INTERFACE BOARD
- ❒ Setting Up the MODALITY SERVER for Autofilming
- ❒ Setting Up a Network Print Destination
- ❒ Setting Up a Network Store Destination
- ❒ Setting Up the MODALITY SERVER for a HIS/RIS Gateway
- ❒ Setting Up the MODALITY SERVER for the BAR CODE READER Option
- ❒ Setting Up the MODALITY SERVER for the MODALITY Store Option

Checking Service Tracking

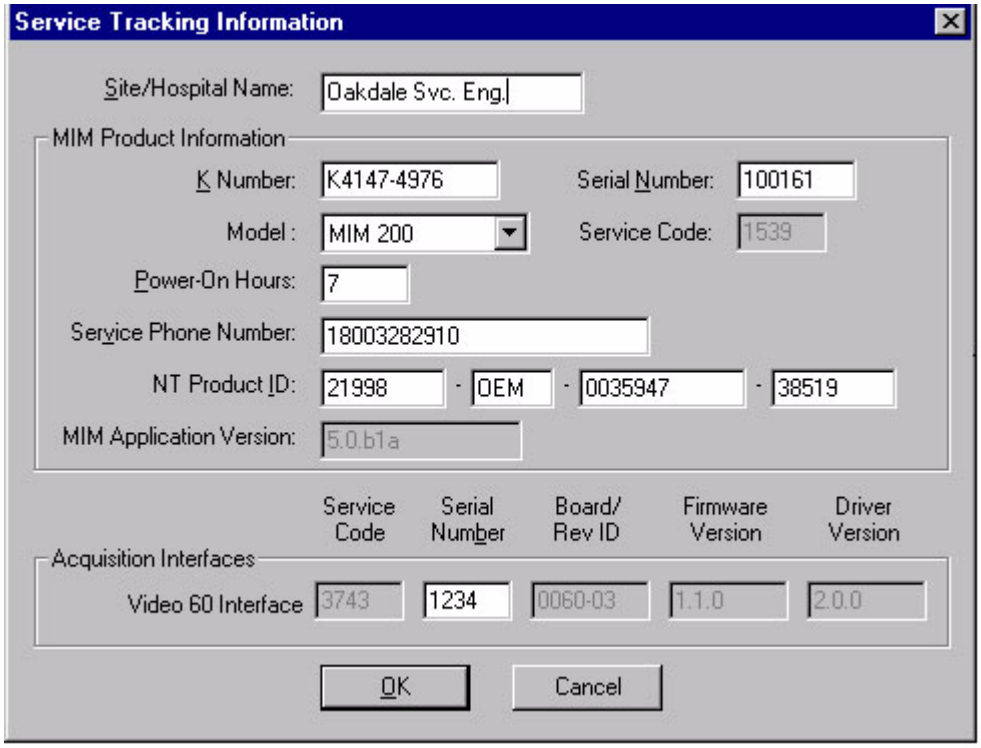
[1] Connect the LAPTOP COMPUTER to the MIM.

Note

You will need the IP Address of the MIM to connect:

- For a new MIM, locate the IP Address on the side of the MIM.
- After re-ghosting, the IP Address for all V_6.1 MIMs is 123.123.123.10

[2] At the "MIM Service Application" window, select **Configure>Service Tracking Information**.



[3] Check that the information in the "Service Tracking Information" window is correct. See Table 7–1.

[4] Did you change information?

- Yes: Click [OK].
- No: Click [Cancel].

[5] Advance to the next procedure to set up the MODALITY SERVER for the network.

Table 7–1 Input Parameters: Service Tracking Information

Input Parameter	Description	Range
Site/Hospital Name	The location of the MIM. This will appear as an annotation if enabled within the SCU Connection Database.	1-14 alphanumeric characters
K Number	The K Number assigned to this MIM by manufacturing.	1 -11 alphanumeric characters
Serial Number	The Serial Number assigned by manufacturing to the MIM family. The “Service Tracking” window displays the corresponding service code below the Serial Number.	1 - 6 alphanumeric characters
Model	Indicates the type of equipment.	MODALITY SERVERS: MIM 200, MIM 100NR
Service Code	Indicates the service code of the equipment.	4 digit code
Power-On-Hours	The number of hours that the MIM has been energized. The software updates this number every hour. This value is used for MIM reliability analysis.	1 - 6 numeric digits
Service Telephone Number	Telephone number of the local Technical Support Center, for U.S. only.	0 - 20 alphanumeric characters
NT Product ID	Product ID for the license for the *Windows* NT operating system. Must be unique for each MIM.	4 alphanumeric fields field 1 = 5 characters field 2 = 3 characters field 3 = 7 characters field 4 = 5 characters
MIM Application Version	This is a “view only” field. Shows the version level of the application software for the MIM. For example: 6.0	3 - 19 alphanumeric characters The number = release level. If included following the number: Letter = development level, alpha or beta. Last number = sequence number for successive release levels.
Acquisition Interfaces	Information for each interface is displayed for the MIM 200. “Service Code”: This is a “view only” field. “Serial Number”: Check the DATA PLATE of the INPUT or OUTPUT BOARD. “Board/Rev ID,” “Firmware,” and “Driver Versions” are “view only” fields.	Video or Digital: 3433, 3468, 3469, or 3743 Enter the Serial Number to automatically update the other fields for Interface Type.

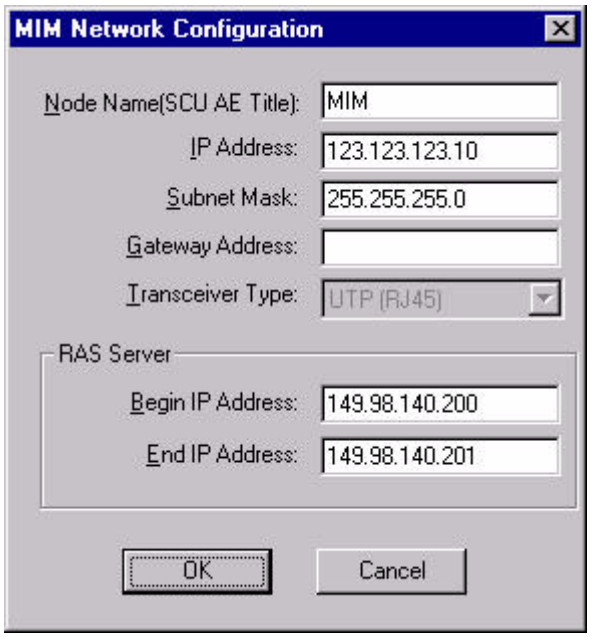
Setting Up the MODALITY SERVER for the Network

The “MIM Service Application” allows you to check and set the MIM network parameters that are necessary to set up the MIM as a device on the network.

Important

The Remote Access Service (RAS) provides IP addresses for clients, enabling access to other MIMs on the network. See the Network Administrator for RAS IP Addresses. 2 IP Addresses per site are necessary on the same subnet as the MIM: 1 for the MIM and 1 for the client.

[1] At the “MIM Service Application” window, select: **Configure>Network**.



[2] Determine from the customer the information to enter in the “MIM Network Configuration” window.

[3] See Table 7–2 for descriptions of the parameters in the “MIM Network Configuration” window.

- Node Name: Identifies the MIM on the Local Area Network (LAN). The Node Name is also the AE Title for a MODALITY SERVER. See Network Administrator.
- IP Address: See Network Administrator
- Subnet mask: See Network Administrator
- Gateway Address: See Network Administrator
- RAS Server Begin and End IP Addresses: See Network Administrator. The 2 addresses must be sequential, and the End IP Address must be higher than the Begin IP Address.

[4] If you changed any information, click [OK] and update the LABEL on the side of the MIM. If you did not change information, click [Cancel].

Note

Changing the Node Name of the MIM will increase the boot time by up to 4 minutes on the next boot only.

[5] At the message “Changes will take effect the next time the MIM is restarted...,” click [OK].

[6] Shut down the MIM **from the MIM Service Application Admin menu**, and select **Restart** from the next window.

[7] Advance to the correct procedure:

INTERFACE BOARD	Go To:
DIGITAL	“Setting Up the Input for a DIGITAL INTERFACE BOARD.”
VIDEO 60, 150LC, or 150	“Setting Up the Input for a VIDEO INTERFACE BOARD.”

Table 7–2 Input Parameters: Network Information

Input Parameter	Description	Range
Node Name	A unique name that identifies the local MIM to the TCP/IP network. This name should identify the location of the MIM. For a MODALITY SERVER, the Node Name is also the AE Title. Update the LABEL on the side of the MIM.	1 - 15 alphanumeric characters plus hyphen: "-"
IP Address	The unique address that identifies a node in a network. Update the LABEL on the side of the MIM.	4 fields (1 - 254) in which each field is separated by a period
Subnet Mask	Works with the IP Address to subdivide the network into more than 1 network.	4 fields (0 - 255) in which each field is separated by a period
Gateway Address	The IP Address of the Router used in a wide area network (WAN) setup. The "MIM Service Application" software does not require you to enter data in this field.	4 fields (1 - 254) in which each field is separated by a period
Transceiver Type	The TRANSCEIVER type of the *Ethernet* circuit or NETWORK BOARD used for communication on the network. This is a "view only" field.	UTP (RJ45) is the only option for the MIM 200. Although the MIM 100 has various options, RJ45 is recommended. The following options are available only when using the NETWORK COMBO CARD 10base: • UTP (RJ45) • Thickwire (10 base 5) • Thinwire (10 base 2)
RAS Server Begin IP Address	Beginning IP Address of the RAS Server static address pool. This IP Address must be lower than the End IP Address and located on the same subnet. The Begin and End IP Addresses must in sequence.	4 fields (1 - 254) in which each field is separated by a period
RAS Server End IP Address	End IP Address of the RAS Server static address pool. This IP Address must be higher than the Begin IP Address and located on the same subnet. The Begin and End IP Addresses must in sequence.	4 fields (1 - 254) in which each field is separated by a period

Setting Up the Input for a DIGITAL INTERFACE BOARD

Setting Up the Basic Input Parameters

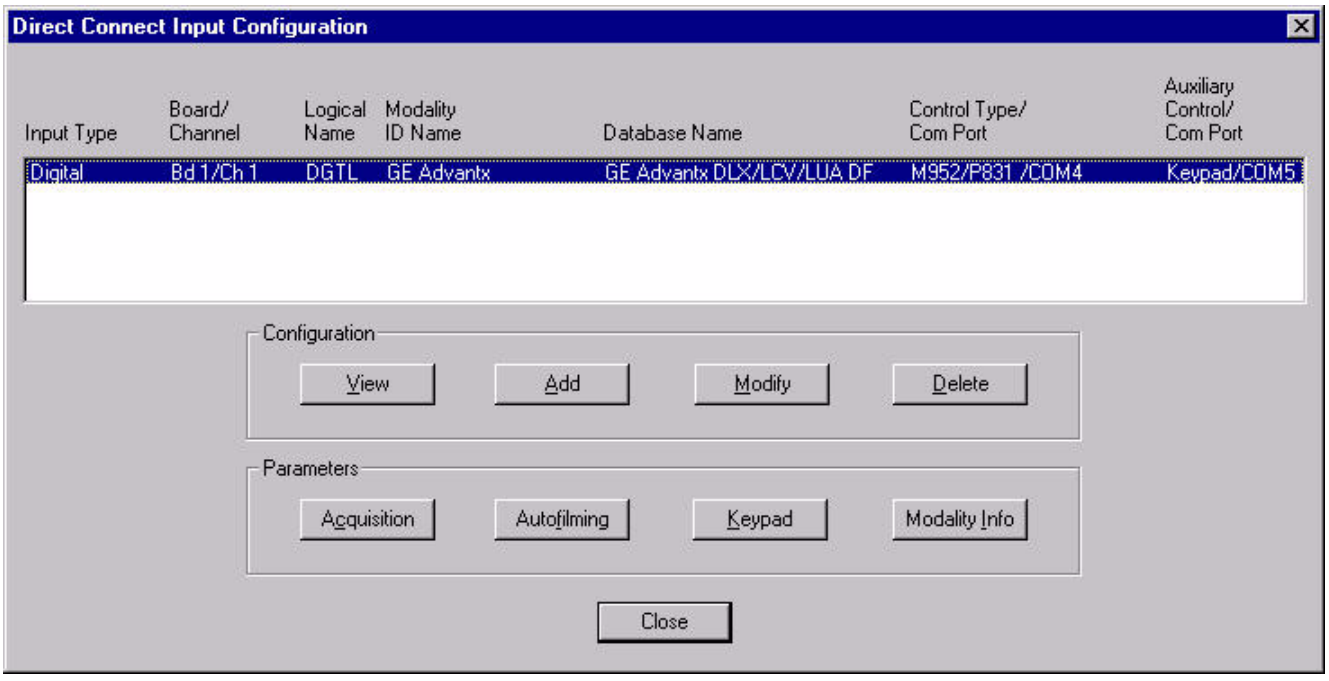
Use this procedure to set up the DIGITAL INTERFACE BOARD for the MIM 200 or MIM 100.

- Will the primary control of the MIM be the KEYPAD or an Autofilming Link?
- Will the MIM be connected to a Qualified or Unqualified MODALITY?
  - A Qualified Input indicates that the MODALITY has been checked in the field with correct parameters. The database in the Service Software for the MIM may also include this MODALITY in the Qualified list.
  - An Unqualified Input indicates that the MODALITY has **not** been checked in the field. Consult TSC before attempting to set up an Unqualified Input.
- Check that the operator can provide a clinical image to evaluate image quality after you finish setting up the Input. The image must contain:
  - Grayscale including the brightest and darkest values (0 to 255 A/D Counts)
  - White text on black background, or black text on white background
  - Sharp transitions and vertical lines

Important

- New MIMs are set up with a “test” input. Before adding a new input, delete this existing input from the “Configuration” menu.
- Check the MODALITY DATABASE for information on parameters before continuing.

[1] At the “MIM Service Application” window, select **Configure>Input>Direct Connect**.

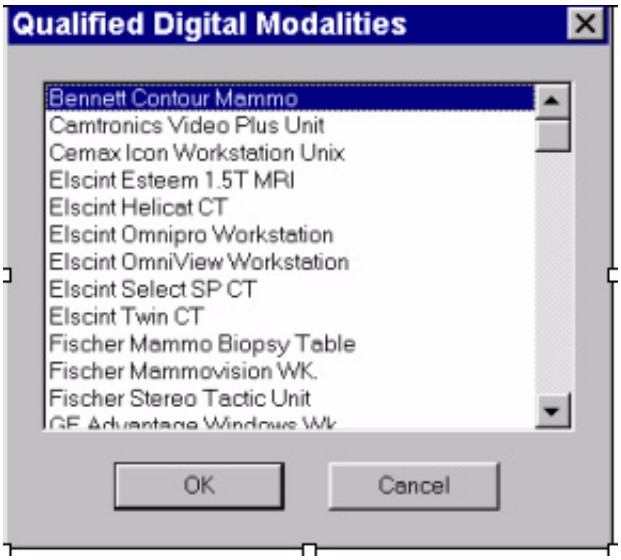


[2] At the “Direct Connect Input Configuration” window, highlight the “test” input and click [Delete].

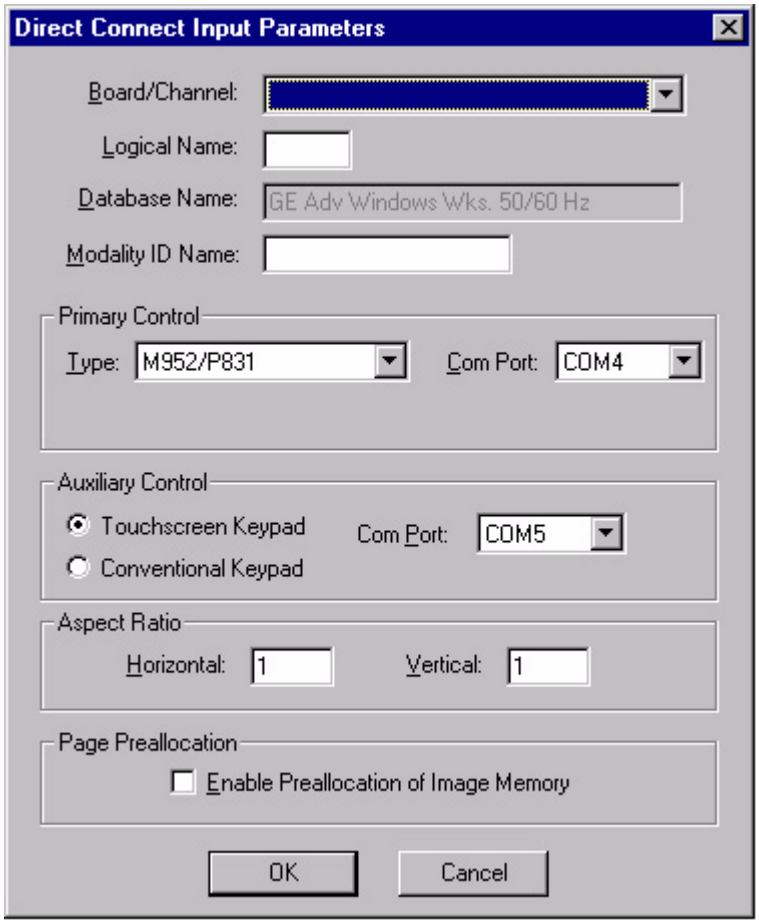
[3] At the message, “Executing this command will delete the input from the system. Are you sure?” select [Yes]. The KEYPAD goes off-line.

[4] At the “Direct Connect Input Configuration” window, select:

- [Add]
- [Digital]
- [Qualified]



[5] At the "Qualified Digital Modalities" window, select the correct MODALITY and click [OK].



Note

See Table 7–3 for descriptions of the Direct Connect Input Parameters.

[6] Enter the correct input parameters:

- Board/Channel: Select from the drop-down menu.
- Logical Name: Enter a name for the DIGITAL INTERFACE BOARD, for example: dig1, dig2.
- Database Name: For Unqualified MODALITIES only, enter a name for the MODALITY.
- Modality ID Name: Enter a shortened name for the MODALITY.

- Primary Control Type: KEYPAD or type of Autofilming connection. See Table 7–3.
- Primary Control COM Port: See Table 7–3.
- Auxiliary Control Type: Used only for Autofilming. See Table 7–3.
- Auxiliary Control COM Port: Used only for Autofilming. See Table 7–3.
- Aspect Ratio and Page Preallocation: See Table 7–3.

[7] Click [OK]. This will display the "Direct Connect Input Configuration" window.

[8] Advance to "Setting Up the Digital Interface 'Image' Parameters."

Table 7–3 Direct Connect Input Parameters

Input Parameter	Description	Range
Board	INTERFACE BOARD on the PCI BUS.	DIGITAL INTERFACE BOARD 1 or 2
Channel Number	Number of the channel of the INTERFACE BOARD.	Channel 1
Logical Name	Name for the BOARD receiving the input.	1 - 5 alphanumeric characters Examples: MRI 1 or CTRM 1
Database Name	A "view only" field for Qualified MODALTIES. Name of MODALITY was selected from list of Qualified MODALITIES. For Unqualified MODALITIES, a name must be entered.	1 - 30 alphanumeric characters
Modality ID Name	Shortened version of MODALITY name. This name is printed on the film when the "Modality ID" is selected for Common Text insertion.	1- alphanumeric characters Fischer STU, etc.
Primary Control Type	What the customer uses to control the MIM.	TOUCHSCREEN or PRINT KEYPAD Autofilming: Hitachi, KCL, M952/P831, *Siemens* (DASM, FSPOT, SPCI), *3M* (DASM, FSPOT, SPCI), Toshiba, YMS
Primary Control Com Port	Port for the KEYPAD or the SERIAL CONTROL CABLE connection	KEYPAD: COM 5 for MIM 100. For MIM 200 it is COM 5, 7, 9 or 11. Autofilming RS422: COM 4 for MIM 100NR. For MIM 200 it is COM 4, 6, 8 or 10.
Auxiliary Control Keypad	Enables the KEYPAD for auxiliary control when Autofilming is the primary control.	KEYPAD: Touchscreen or Conventional Autofilming:On **Important**: For a MIM with Autofilming, "Auxiliary Control" is always On.
Auxiliary Control Port No.	The COM Port for the KEYPAD when it is used for auxiliary control.	KEYPAD: COM 5 for MIM 100. For MIM 200 it is COM 5, 7, 9 or 11 Autofilming: COM4 or 6 for HCL, and COM5, 7 or 9 for KEYPAD.
Aspect Ratio: Horizontal	Horizontal component of pixel aspect ratio. The software automatically determines this ratio. Aspect ratios not equal to 1:1 correct for non-square pixels.	1 - 255
Aspect Ratio: Vertical	Vertical component of pixel aspect ratio. The software automatically determines this ratio. Aspect ratios not equal to 1:1 correct for non-square pixels.	1 - 255
Page Preallocation	When enabled, this feature ensures that sufficient memory is available on the HARD DISK to prevent a "Buffer Full" condition while MIM stores a page.	On, Off

Setting Up the Digital Interface "Image" Parameters

Important

- Set Up the digital input for the **smallest** image size used at the site.
- Check the MODALITY DATABASE to determine correct parameters.
- To advance to each item in the "Digital Interface Parameters" window, press [Tab] on the LAPTOP COMPUTER.

[1] At the "Direct Connect Input Configuration" window, select:

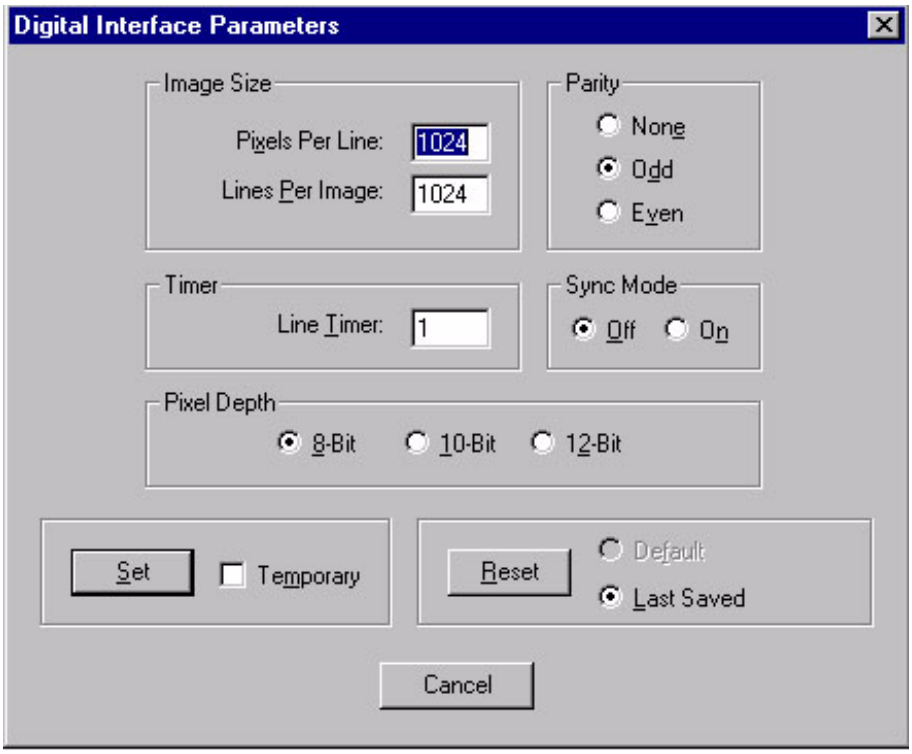
- [Acquisition]
- [Modify]

Note

If you want to see the "Digital Interface Parameters," you can select:

- [Acquisition]
- [View]

[2] When the MIM prompts "Are you sure?", click [OK].



[3] For Qualified MODALITIES, the parameters are automatically set. For Unqualified MODALITIES, all parameters in the window must be set to the correct values. See Table 7–4 for parameter descriptions.

Table 7–4 Fields and [Buttons] for the "Digital Interface Parameters"

Parameter	Description	Range
Pixels per Line	The default number of pixels per line that the MIM expects the Imaging Device to send. This number will be used to determine format validation.	1 - 4361
Lines per Image	The default number of lines per image that the MIM expects the Imaging Device to send. This number will be used to determine format validation.	1 - 5348
Parity	Error-detection used by adding an even or odd number of 1's to the binary word.	None, Odd, or Even
Line Timer	The number of seconds that the DIGITAL INTERFACE BOARD waits to receive a complete size or data packet from the Imaging Device.	1 - 240
Sync Mode	If "Auto Sync" is selected, the DIGITAL INTERFACE BOARD will continue to acquire the image when a failure occurs during image acquisition. If "No Sync" is selected, the DIGITAL INTERFACE BOARD will not continue to acquire the image when a failure occurs during image acquisition.	No Sync, Auto Sync
Pixel Depth	The number of bits per pixel.	8

[4] After changing information, select [Set]. If the information is correct, select [Cancel].

[5] Use the following table to advance to the next procedure:

Primary Control Type	Procedure
Autofilming	"Setting Up the MODALITY SERVER for Autofilming"
KEYPAD	Do the procedures that apply to this site: • "Setting Up a Network Print Destination" • "Setting Up a Network Store Destination" • "Setting Up the MODALITY SERVER for a HIS/RIS Gateway" • "Setting Up the MODALITY SERVER for the MODALITY Store Option"

Setting Up the Input for a VIDEO INTERFACE BOARD

Setting Up the Basic Input Parameters

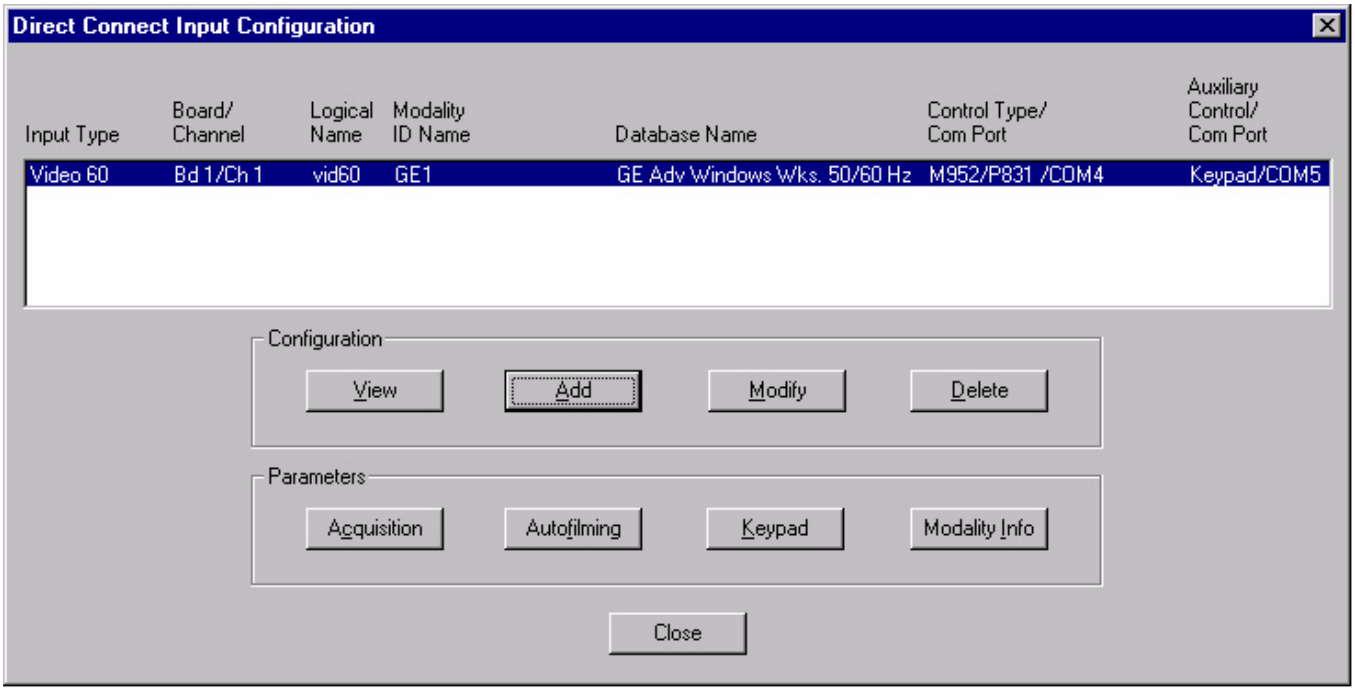
This procedure applies to all 3 VIDEO INTERFACE BOARDS: VIDEO 60, VIDEO 150LC, and VIDEO 150.

- Will the primary control of the MIM be the KEYPAD or an Autofilming Link?
- Will the MIM be connected to a Qualified or Unqualified MODALITY?
  - A Qualified Input indicates that the MODALITY has been checked in the field with correct parameters. The database in the Service Software for the MIM may also include this MODALITY in the Qualified list.
  - An Unqualified Input indicates that the MODALITY has **not** been checked in the field. Consult TSC before attempting to set up an Unqualified Input.
- Check that the operator can provide a clinical image to evaluate image quality after you finish setting up the Input. The image must contain:
  - Grayscale including the brightest and darkest values (0 to 255 A/D Counts)
  - White text on black background, or black text on white background
  - Sharp transitions and vertical lines

Important

- The MIM comes from the factory set up with a "test" Input. Before adding a new Input, you should delete this existing Input from the "Direct Connect Input Configuration" menu.
- See Tables 7-6 through 7-11 for descriptions of the parameters that you will enter in this procedure.
- Consult the MODALITY DATABASE for parameter information before proceeding.

[1] At the "MIM Service Application" window, select **Configure>Input>Direct Connect**.



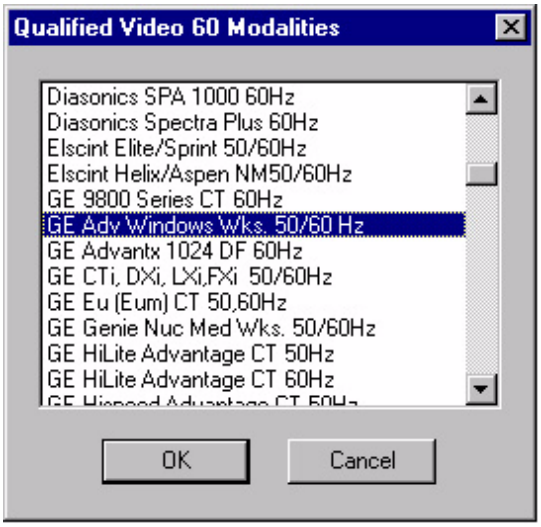
[2] At the "Direct Connect Input Configuration" window, highlight the "test" Input and click [Delete].

[3] At the message, "Executing this command will delete the input from the system. Are you sure?" select [Yes]. The KEYPAD goes off-line.

[4] At the "Direct Connect Input Configuration" window, select:

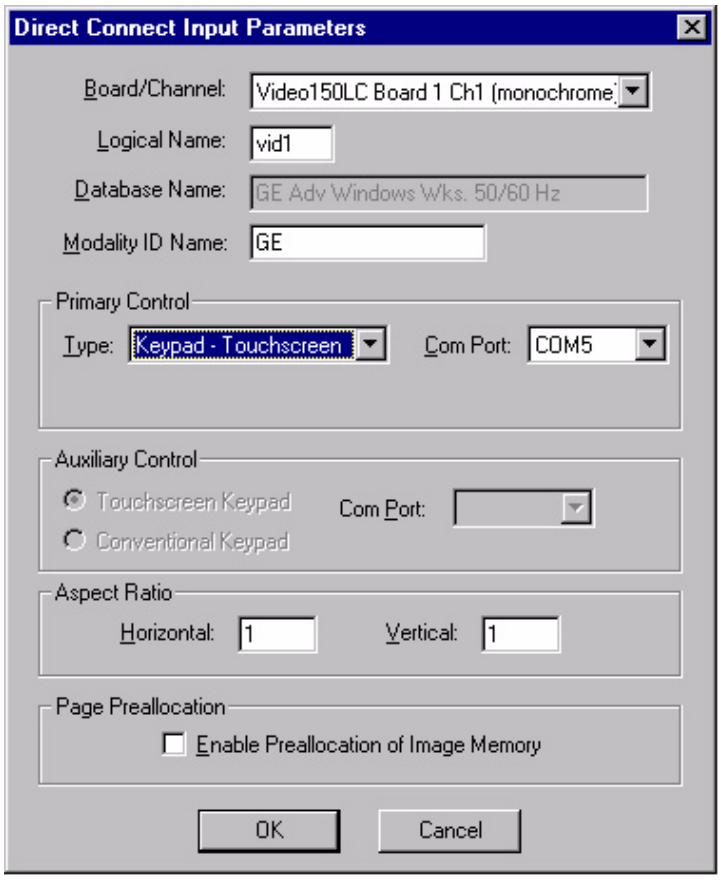
- [Add]
- [Video]
- [Qualified Video xxx] or [Unqualified Video xxx], as necessary

[5] If you selected "Qualified Video xxx," the "Qualified Video xxx Modalities" window displays:


Qualified Video 60 Modalities
Diasonics SPA 1000 60Hz
Diasonics Spectra Plus 60Hz
Elscint Elite/Sprint 50/60Hz
Elscint Helix/Aspen NM50/60Hz
GE 9800 Series CT 60Hz
GE Adv Windows Wks. 50/60 Hz
GE Advantx 1024 DF 60Hz
GE CTi, DXi, LXi,FXi 50/60Hz
GE Eu (Eum) CT 50,60Hz
GE Genie Nuc Med Wks. 50/60Hz
GE HiLite Advantage CT 50Hz
GE HiLite Advantage CT 60Hz
OK
Cancel

(a) Highlight the name of the correct MODALITY.

(b) Click [OK] to display the "Direct Connect Input Parameters" window.



[6] Enter the correct input parameters:

- Board/Channel (monochrome or Color-RGB): Select from the drop-down menu.

- Logical Name: Select name of VIDEO INTERFACE BOARD, for example: vid1, vid2, etc.
- Database Name: For Unqualified MODALITIES only, enter name of MODALITY.
- Modality ID Name: Enter a short name for the MODALITY.
- Primary Control Type: KEYPAD or type of Autofilming connection. See Table 7–5.
- Primary Control COM Port: See Table 7–5.
- Auxiliary Control Type: Used only for Autofilming. See Table 7–5.
- Auxiliary Control COM Port: Used only for Autofilming. See Table 7–5.
- Aspect Ratio and Page Preallocation: See Table 7–5.

[7] Click [OK] to return to the "Direct Connect Input Configuration" window.

[8] If the input is from a "Qualified" MODALITY, advance to "Using Auto Setup to Set Up the VIDEO INTERFACE BOARD."

[9] If the input is from an "Unqualified" MODALITY, consult TSC before entering parameters:

(a) Select [Acquisition] + [Modify] to display the "Video Board Setup" window (see Table 7–6).

(b) Select [Config] + [Horizontal Parameters].The "Horizontal Parameters" window displays (see Table 7–7).

(c) Enter parameter information from the MODALITY DATABASE and then click [OK].

(d) Repeat steps b and c for each of the 4 remaining parameter types that can be selected on the "Video Board Setup" window: Vertical (Table 7–8), Video Gain and Offset (Table 7–9), Video Sync (Table 7–10), and Pixel Clock (Table 7–11).

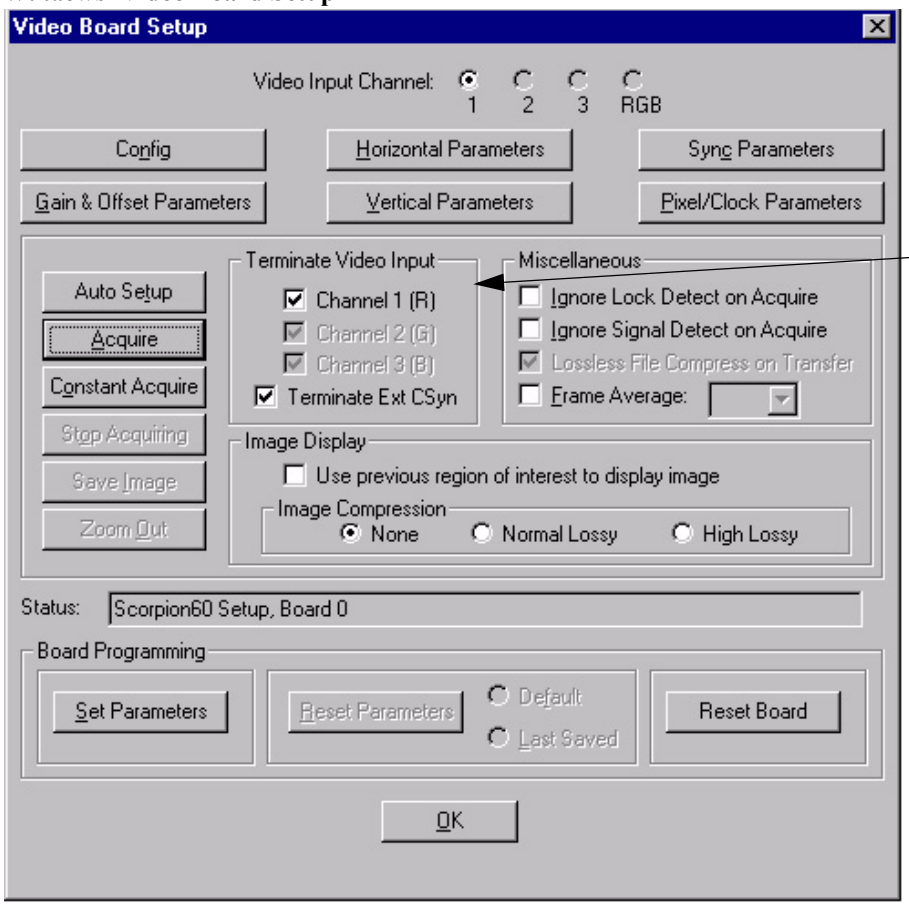
(e) After entering the parameters, select [Set Parameters] from the "Video Board Setup" window.

(f) Advance to "Using Auto Setup to Set Up the VIDEO INTERFACE BOARD."

Table 7–5 Direct Connect Input Parameters

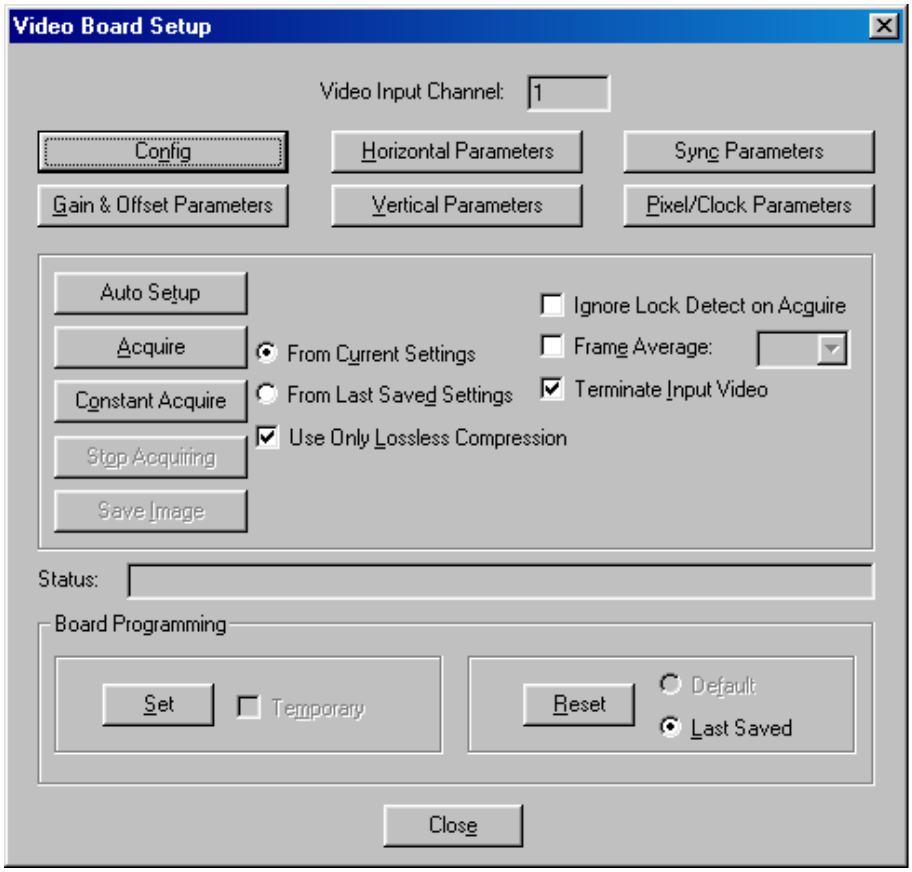
Parameter	Description	Range
Board / Channel	INTERFACE BOARD on the PCI BUS / selected channel	VIDEO BOARD 1/Channel 1, 2, or 3, RGB
Logical Name	Name of the BOARD receiving the input.	1 - 5 alphanumeric
Database	Name of the MODALITY. A “view only” field.	1 - 30 alphanumeric
Primary Control Type	What the customer uses to control the MIM.	KEYPAD: Touchscreen or Conventional Autofilming: Hitachi, KCL, M952/P831, *Siemens* (DASM, FSPOT, SPCI), *3M* (DASM, FSPOT, SPCI) Toshiba, YMS
Primary Control COM Port	Port for the KEYPAD or the SERIAL CONTROL CABLE connection	KEYPAD: COM 5 for MIM 100. For MIM 200 it is COM 5, 7, 9 or 11. Autofilming RS422: COM 4 for MIM 100. For MIM 200 it is COM 4, 6, 8 or 10.
Auxiliary Control Keypad	When Autofilming is selected as the Primary Control, “Auxillary Keypad” is automatically checked. The type of KEYPAD is selectable.	KEYPAD: Touchscreen or Conventional
Auxiliary Control Com Port	The COM Port for the KEYPAD when it is used for auxiliary control. If the KEYPAD is the Primary Control, then the “Auxiliary Control Com Port” is **not** user changeable.	KEYPAD: COM 5 for MIM 100. For MIM 200 it is COM 5, 7, 9, 11.
Aspect Ratio: Horizontal	Horizontal component of pixel aspect ratio. The software automatically determines this ratio. When the aspect ratio is not 1:1, the software corrects for non-square pixels.	1 - 255
Aspect Ratio: Vertical	Vertical component of pixel aspect ratio. The software automatically determines this ratio. When the aspect ratio is not 1:1, the software corrects for non-square pixels.	1 - 255
Page Pre-allocation	When enabled, this feature ensures that sufficient memory is available on the HARD DISK to prevent a “Buffer Full” condition while the MIM stores a page.	On, Off

Table 7–6 *Windows*"Video Board Setup"



The Terminate Video Input panel applies to VIDEO 60 only. VIDEO 150LC is Active Passthrough.

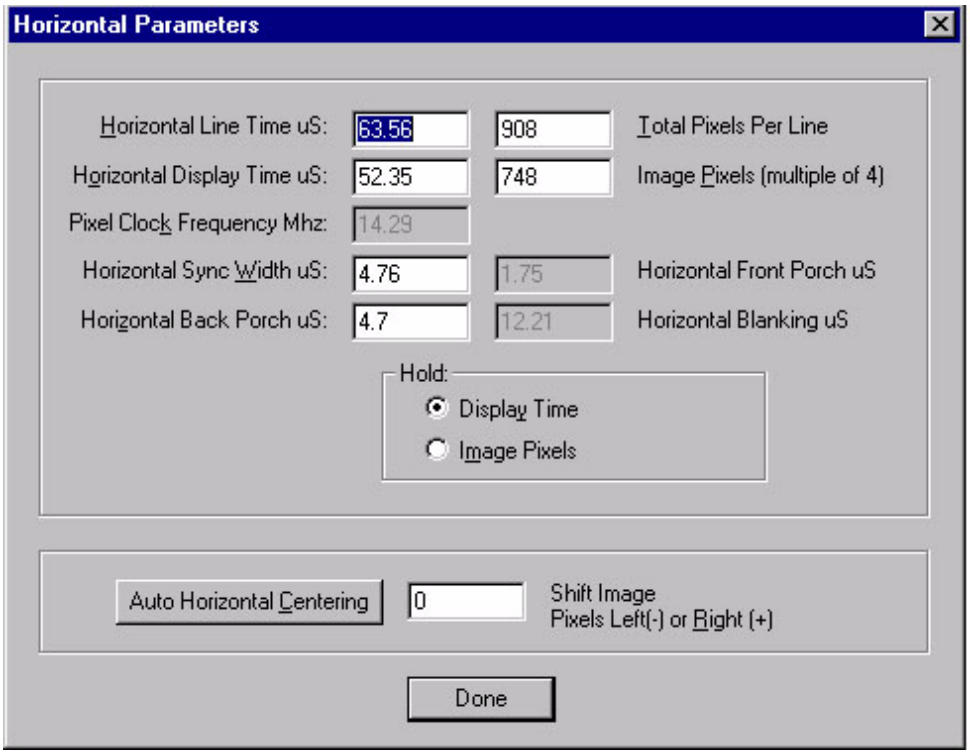
VIDEO 60 and 150LC INTERFACE BOARD



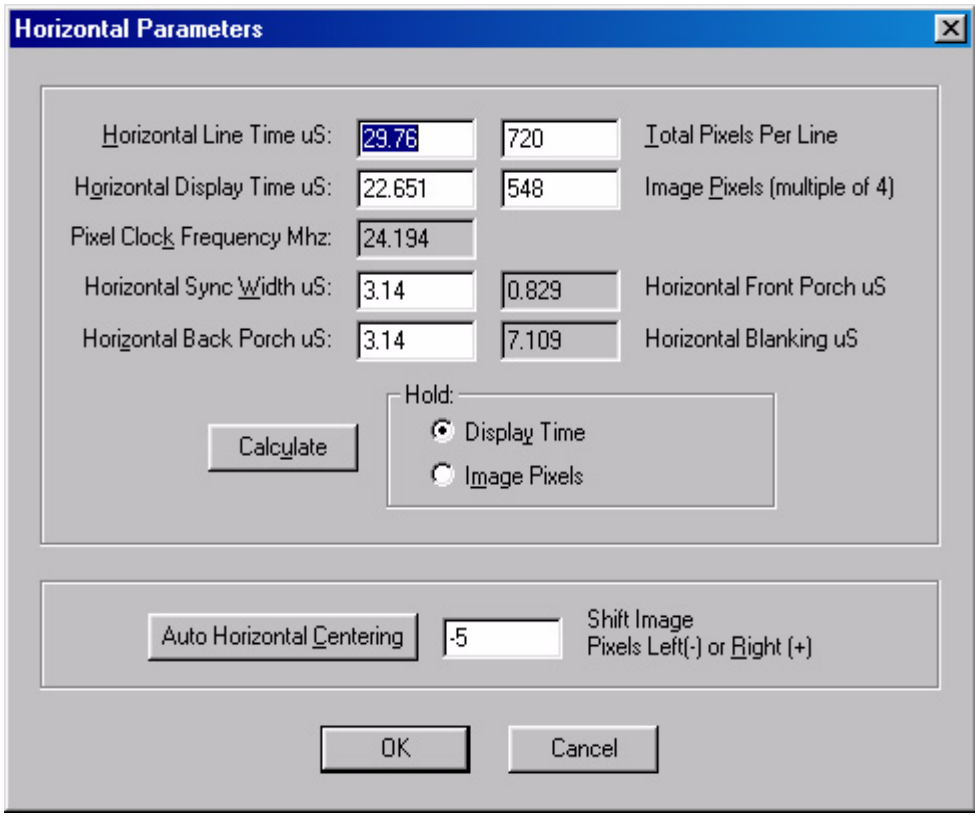
VIDEO 150 INTERFACE BOARD

Parameter	Description	Range
Video Input Channel	Allows selection of an RGB channel or monochrome.	1,2,3, RGB or monochrome
[Config] [Horizontal Parameters] [Vertical Parameters] [Gain and Offset] [Sync Parameters] [Pixel Clock Parameters]	Press to enter values for 5 sets of parameters.	
[Auto Setup]	Automatically adjusts the values for certain parameters.	
[Acquire]	Automatically acquires and displays a test image. VIDEO 150 provides option of acquiring from “Current Settings” or “Last Saved” settings.	
[Constant Acquire]	Do repetitive acquisitions.	
Ignore Lock Detect on Acquire Do not enable this mode.	When enabled, the MIM will acquire an image even if an error occurs. The software will **not** compute the “Lock Detect Count”.	Not Enabled
Ignore Signal Detect on Acquire	For VIDEO 60 and 150LC only: The MIM will acquire an image even if a signal is not detected.	Yes, No
Frame Average	This feature reduces the signal noise in the image. When it is selected, a window opens to the user to enter the number of frames (2-4) on which to base the calculation of the average.	Yes, No default: Off
Terminate Video Input. See RS-232/RS-422 Converter in Section 3.	For VIDEO 60 only. (Disabled for VIDEO 150LC.) Provides 75 ohms at video input. Without this termination the image will indicate horizontal ringing. MODALITIES with high pixel clock frequency will be affected most.	Yes, No
Terminate Input Video	For VIDEO 150 only: Same as “Terminate Video Input” for VIDEO 60 described above.	Yes, No
Terminate Ext CSyn	For VIDEO 60 only: Provides termination for CSync.	Yes, No
Image Display	For VIDEO 60 and 150LC only: Allows selection of previous region of interest for image display.	Yes, No
Image Compression	For VIDEO 60 and 150LC only: Provides ability to acquire an uncompressed normal lossy or high lossy image for display.	Yes, No
Status	Grayed out for VIDEO 60 and 150LC. For VIDEO 150, displays the 9 “tasks” during Auto Setup.	N/A
[Set Parameters]	For VIDEO 60 or 150LC only. Stores the parameter information permanently.	N/A
[Set}	For VIDEO 150 only. Stores parameter information permanently if “Temporary” is deselected. If “Temporary” is selected, stores until next time MIM is de-energized, then energized.	Permanent, Temporary
[Reset Parameters]	Resets the parameters either to the factory default or the last saved set.	Default, Last Saved
[Reset Board]	For VIDEO 60 and 150LC only. Resets the BOARD to defaults.	N/A
[OK] or [Close]	Exits the window without saving changes.	N/A

Table 7–7 “Horizontal Parameters”



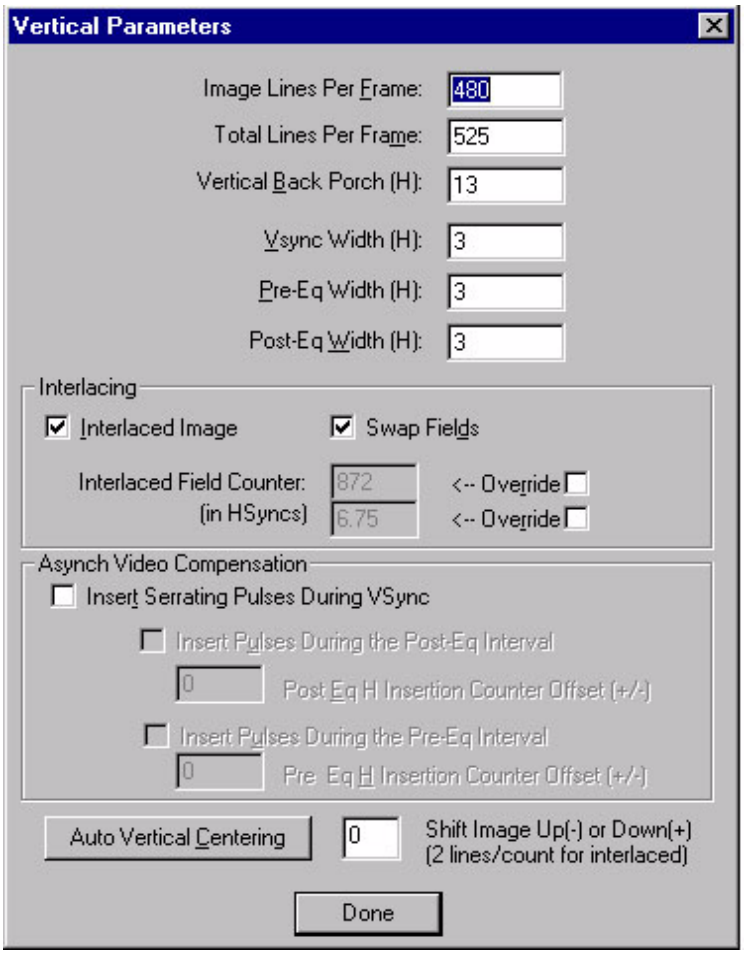
VIDEO 60 and 150LC INTERFACE BOARD



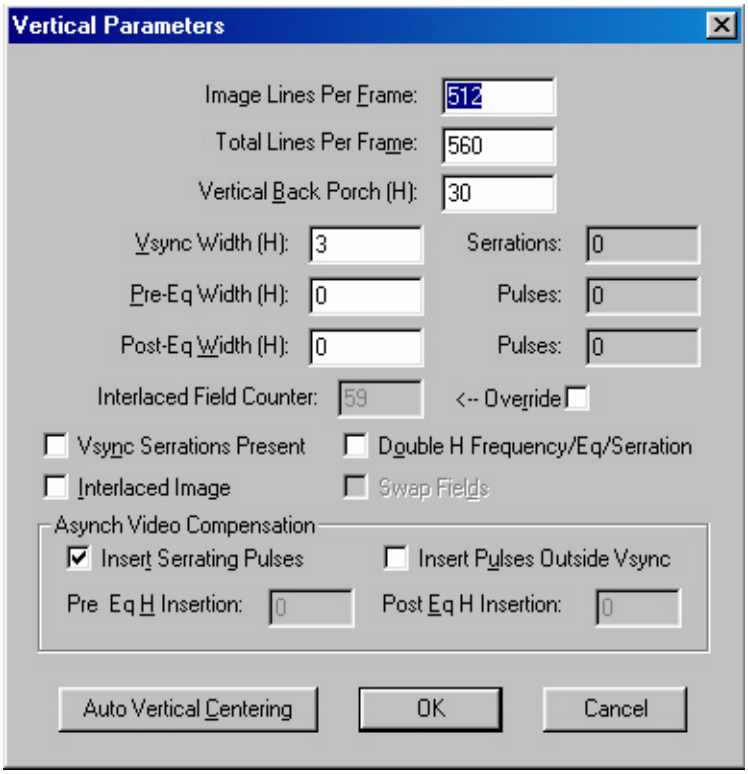
VIDEO 150 INTERFACE BOARD

Horizontal Parameter	Description	Range
Line Time	Time in microseconds for one HSYNC cycle.	1.00 - 99.99
Total Pixels per Line	Number of pixel clock pulses that occur in one horizontal line.	1 - 9999
Display Time	Time in microseconds for active video in one horizontal line.	1.00 - 99.99
Image Pixels	Number of image pixels per line. A combination of 4.	1 - 9999
Pixel Clock Frequency	Pixel clock rate in MHz. The software calculates value.	1.000 - 999.999
Sync Width	Width in microseconds of the horizontal synchronization pulses.	0.000 - 99.999
Front Porch	Width in microseconds of the front porch. The software calculates the value.	0.000 - 99.999
Back Porch	Width in microseconds of the back porch.	0.000 - 99.999
Blanking	Total in microseconds of the widths for the back porch, front porch. The software calculates this value.	0.000 - 99.999
Calculate	For VIDEO 150 only. Calculates the pixel clock frequency using the “Horizontal Line Time” and “Total Pixels per Line” with the option of holding constant the “Display Time” and/or “Image Pixels.” The software requires that values be entered for “Horizontal Line Time” and “Total Pixels per Line.”	N/A
Hold	Determines which value you select for the constant during the setup.	Display Time, Image Pixels
[Auto Horizontal Centering]	Do **not** select. Places the same number of black pixels on either side of the image. Uses the selection you make for “Shift Image Pixels...”.	N/A
Shift Image Pixels L/R	The number of pixels that the image will move to the right or left when you select [Auto Centering]. Negative numbers move the image to the left, positive numbers to the right.	-9999 to 9999

Table 7–8 *Windows* "Vertical Parameters"



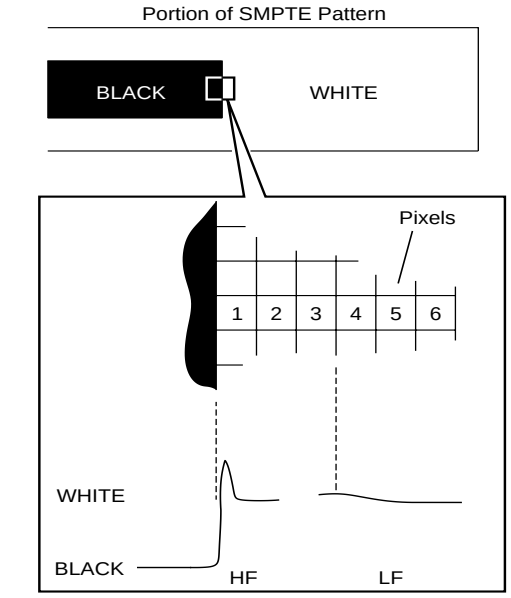
VIDEO 60 and 150LC INTERFACE BOARD



VIDEO 150 INTERFACE BOARD

Vertical Parameter	Description	Range
Image Lines Per Frame	Number of vertical image **lines per frame** in the active video.	1 - 9999
Total Lines Per Frame	Number of vertical lines including vertical synchronization and equalization periods.	1 - 9999
Vertical Back Porch (H)	Number of vertical **lines per field** that occur after the vertical sync pulse and before the active video begins.	1 - 999
Vsync Width (H)	Width of the vertical synchronization pulse measured in Hsync pulses (H).	1 - 99
Serrations	For VIDEO 150 only. Number of serration pulses that occur during the vertical synchronization pulse period. This number typically is 1 or 2 times the Vsync Width, and is set by the Double H Frequency/Eq/Serration" option. The software calculates the value.	0 - 99
Pre-equalization Width (H)	Width of the pre-equalization period measured in Hsync pulses (H).	0 - 99
(Pre-Eq Width) Pulses	For VIDEO 150 only. Number of serration pulses that occur during the pre-equalization pulse period. This number typically is 1 or 2 times the Pre-Equalization Width, and is set by the Double H Frequency/Eq/Serration" option. The software calculates the value.	0 - 99
Post-equalization Width (H)	Width of the post-equalization period measured in Hsync pulses (H).	0 - 99
(Post-Eq Width) Pulses	For VIDEO 150 only. Number of serration pulses that occur during the post-equalization pulse period. This number typically is 1 or 2 times the Post-Equalization Width, and is set by the Double H Frequency/Eq/Serration" option. The software calculates the value.	0 - 99
Interlaced Image (Option)	Must be enabled if the image is interlaced.	Yes, No
Swap Fields (Option)	Allows the order of the 2 fields (one for odd lines and one for even lines) of an interlaced image to be interchanged.	Yes, No
Interlaced Field Counter: (in HSyncs)	Value is automatically calculated for the number of lines **or** HSyncs by the software for interlaced Modalities only.	0 - 225
Override	Indicates if the "Interlaced Field Counter: (in HSyncs) is overridden.	Yes, No
Vsync Serrations Present	For VIDEO 150 only. Indicates that serration pulses exist during the Vsync period.	Yes, No
Double H Frequency/Eq/ Serration	For VIDEO 150 only. If enabled, the frequency of occurrence of serration pulses during the vertical period is twice the rate of Hsync pulses. If not enabled, the frequencies are the same.	Yes, No
ASync Video Compensation	Selections for inserting serrating pulses.	N/A
[Auto Vertical Centering]	Adjusts the top to bottom centering of the image on the film.	

Figure 7–1 **HF and LF Cable Compensation Parameters**



Important

The High Frequency (HF) response occurs at the transition of BLACK and WHITE in the SMPTE. The Low Frequency (LF) response begins at Pixel 4.

Table 7–9 *Windows* "Video Gain and Offset Parameters"

Parameter	Description	Range
Coarse Offset	Coarse video offset control. One Coarse Offset step will provide a change of approximately 2 A/D counts.	VIDEO 150: 45 - 255; default: 128 VIDEO 60 and 150LC: 0 - 255; default: 128
Fine Offset	Fine video offset control. One Fine Offset step will provide a change of approximately one-half A/D count.	0 - 255; default: 128
Coarse Gain	Coarse video gain control. Set the gain level with the Coarse Gain **before** you use the Fine Gain.	0 - 255; default: 128
Fine Gain	Fine video gain control.	0 - 255; default: 128
LF Cable Compensation	VIDEO 60 and 150LC only: Low frequency compensation. Calculated value. The **lower** the number, the **longer** the CABLE. See Figure 7–1 on Page 7–21 and the "Cable Compensation Adjustment" on page 7-21.	0 - 255; default 128
HF Cable Compensation	VIDEO 60 and 150LC only: High frequency compensation. Calculated value. The lower the number, the longer the CABLE. See Figure 7–1 on Page 7–21 and the "Cable Compensation Adjustment" on Page 7-21.	0 - 255; default 128
Amp Offset	VIDEO 150 only: Sets the offset voltage level applied to the variable gain video amplifiers. Used with the coarse and fine gain offset controls.	0 - 255: default 150
[Auto Level]	VIDEO 150 only: Pressed to do automatic gain and offset calculations. Requires an image with a grayscale bar or one with brightest white and brightest black.	N/A
[Auto Offset]	Sets the offset. Requires an image with a grayscale bar or one with brightest white and brightest black.	

Parameter	Description	Range
[Auto Gain]	Sets the gain. Requires an image with a grayscale bar or one with brightest white and brightest black.	
[Manual Adjustment Tool]	VIDEO 60 and 150LC only: Displays “Manual Gain/Offset” window, which provides ability to graphically plot the pixel values for lines in the image and manually adjust CABLE compensation values.	
RGB Channel Select	VIDEO 60 and 150LC manual adjustment only: Selects channel to be adjusted. For monochrome signals this setting is disabled and automatically set to input channel designated from Video Setup Dialog. For RGB signals, a single channel can be adjusted separately, or all 3 GB channels can be adjusted simultaneously. Changing the value from a single channel to RGB will write over the settings for all channels with the last selected RGB channel.	N/A
Pixel Plot Line Number	VIDEO 60 and 150LC manual adjustment only: Selects the line number to be plotted. Can be used to scroll through and plot lines in an image.	1 - 4096: default 1
Plot Single Channel of RGB	VIDEO 60 and 150LC manual adjustment only: Provides ability to plot a single channel of an RGB signal. This control is disabled for monochrome signals.	N/A
[Set, Acquire and Plot]	VIDEO 60 and 150LC manual adjustment only: Programs the parameters to the VIDEO BOARD, acquires an image and plots the pixel values for the designated line and channels. Displays the pixel plot window, if necessary.	N/A

Figure 7–2 **VIDEO 60 and 150LC INTERFACE BOARD - Monochrome.**

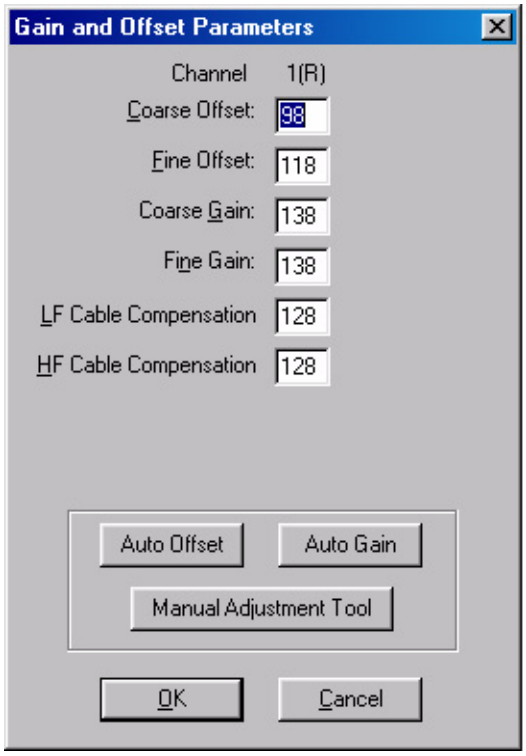


Figure 7–3 **VIDEO 150 INTERFACE BOARD**

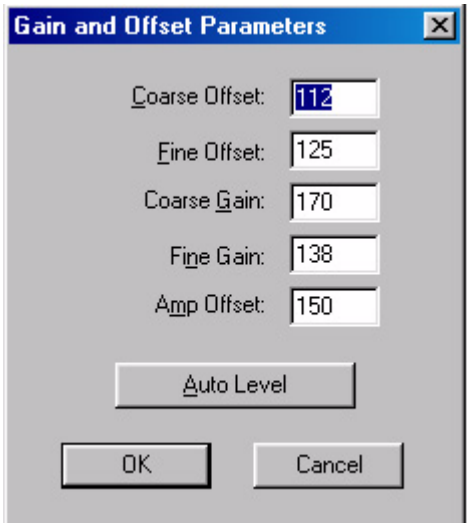


Figure 7–4 **VIDEO 60 and 150LC INTERFACE BOARD - RGB Color**

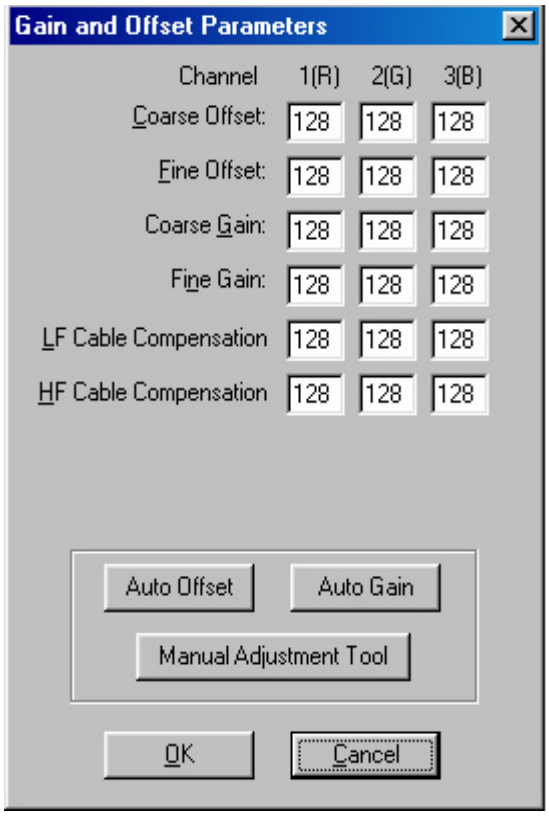


Figure 7–5 **VIDEO 60 and 150LC INTERFACE BOARD - Manual Adjustment**

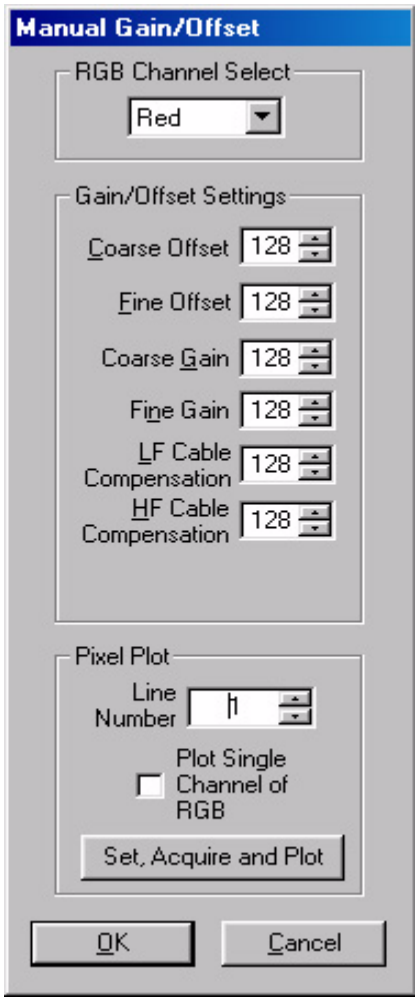


Table 7–10 ***Windows*** **"Video Sync Parameters"**

Parameter	Description	Range
Sync Input Source	VIDEO 60 AND 150LC only: Selection of Sync Input Source, either Composite Video or External C Sync. Composite video is always the same channel as the video signal.	Composite Video (default) or External Composite (Csync)
RGB Sync Source	VIDEO 60 AND 150LC only: Channel selection for Sync	R, G, B
External Composite Sync Polarity	VIDEO 60 AND 150LC only: Polarity of the Sync Pulse.	Negative, Positive
Sync Input source	VIDEO 150 only: Selection of Sync Input Source: Composite Video, External Composite (Csync), or separate External Hsync and External Vsync.	Composite Video (default), External Csync, External H & V Sync
Composite Sync Channel	VIDEO 150 only: Input channel from which to derive the composite sync. Normally the same channel as the video signal, which will be selected automatically when you select [Set]	1,2,3,4; default 1
External Sync Channel	VIDEO 150 only: Input channel from which to derive the external Csync, Hsync, or Hsync-Vsync. Normally the same channel as the video signal, which will be selected automatically when you select [Set].	1,2,3,4; default 1
Pos Ext H or C Sync	VIDEO 150 only: Set for positive-going External Csync or External Hsync signals.	Yes, No

Parameter	Description	Range
Pos Ext V Sync	VIDEO 150 only: Set for positive-going External Vsync signals.	Yes, No
External Sync Level	VIDEO 150 only: Setting for H or Csync or Vsync slicing level. A value of 127 shifts the sync to 0 VDC. A value of 0 shifts the slicing level to -3 VDC. A value of 255 shifts the slicing level to +3 VDC. Selecting [Auto H or C Sync] or [Auto V Sync] automatically calculates these values.	0 - 255: default 127
Low Voltage	VIDEO 150 only: When “Auto H or C Sync” or “Auto Vsync” is selected for an external sync only, the software determines the Low Voltage H/V necessary to correctly amplify or attenuate the sync. The range of -3 VDC to +3 VDC is associated with the 0 to 255 counts. You cannot directly change this value.	0 - 255; default 0
High Voltage	VIDEO 150 only: VIDEO 150 only: When “Auto H or C Sync” or “Auto Vsync” is selected for an external sync only, the software determines the High Voltage H/V necessary to correctly amplify or attenuate the sync. The range of -3 VDC to +3 VDC is associated with the 0 to 255 counts. You cannot directly change this value.	0 - 255; default 0
[Auto H or C Sync]	VIDEO 150 only: Select this button to automatically determine the Hsync slicing level. The software calculates the average of the maximum and minimum values between -3.0 and +3.0 volts for the Hsync slicing level. Composite video applied to the External Hsync input will result in an erroneous slicing level.	N/A
[Auto V Sync]	VIDEO 150 only: Select this button to automatically determine the Vsync slicing level. The software calculates the Hsync slicing level as for the Vsync slicing level. Composite video applied to the External Hsync input will result in an erroneous slicing level.	N/A

Figure 7–6 **VIDEO 60 and 150LC INTERFACE BOARD**

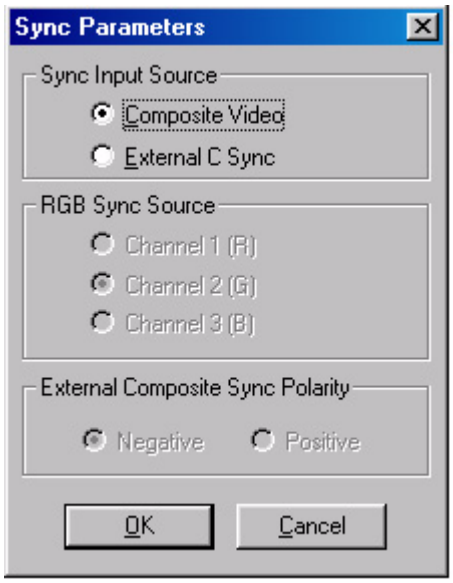


Figure 7–7 **VIDEO 150INTERFACE BOARD**

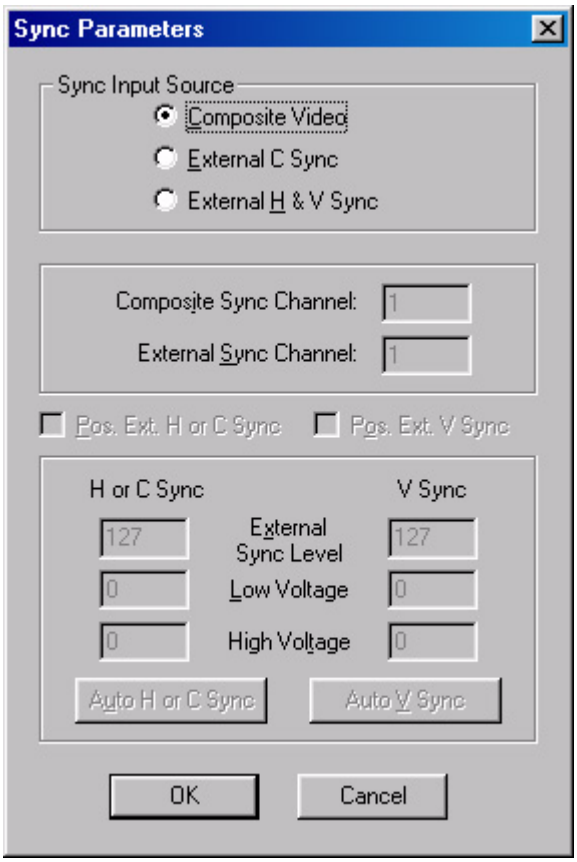


Table 7–11 *Windows* "Pixel Clock Parameters"

Parameter	Description	Range
VCO Divisor	VIDEO 60 only: External divisor setting for PLL. Select from drop-down menu. The Video Control Oscillator (VCO) divisor maintains the VCO frequency in the range of 75 to 150 MHz and is calculated automatically.	Values from 3 - 80, but not all numbers are included; default 3.
VCO Divisor	VIDEO 150 only: External divisor setting for PLL. The divisor is selected automatically to keep the VCO frequency in the range of 15 to 150 MHz. A "view only" field.	1, 2, 4, 8; No default
VCO Divisor Override	VIDEO 60 only. Allows override of calculated PLL VCO divisor value.	On/Off; Default Off
VCO Frequency	Automatically calculated. A "view only" field.	VIDEO 150: 75.000 - 150.000 VIDEO 60: 14.000 - 230.000 VIDEO 150LC: 150.000 - 450.000. No defaults for any.
Vsync Capacitor	Vsync extraction capacitor setting. Automatically calculated. See Table 7–12.	0 - 3; Default 3. See Table 7–12.
Lock Detect Count	VIDEO 60 and 150LC only: The number of pixel clock periods detected by the PLL between Hsync pulses. A "view only" field.	0 - 9999; no default
VCO Gain	VIDEO 60 only: Specifies the PLL VCO gain value. Automatically calculated	0 - 7; Default 0
VCO Gain Override	VIDEO 60 only: Allows for override of PLL VCO gain value.	On, Off; Default Off
Pixel Clock Freq	VIDEO 150LC only: Pixel clock rate in MHz. Automatically calculated, A "view only" field.	1.000 - 999.999; No default
Post-Scaler Divisor	VIDEO 150LC only: Specifies the PLL post-scaler divisor value used to derive the VCO frequency. This value is calculated to generate an optimized VCO frequency using the pixel clock frequency. The value is calculated unless overridden.	2, 4, 8, 16; Default calculated
Post-Scaler Divisor Override	VIDEO 150LC only: Allows for override of the calculated post-scaler divisor value.	On, Off; Default Off
PLL Locked	VIDEO 150LC only: Indicates whether PLL is locked. This setting is refreshed each time the pixel clock parameters are sent to the BOARD.	On, Off; No default
Phase Frequency Detector Gain	VIDEO 60 and 150LC only: Specifies the PLL phase frequency detector gain. Automatically calculated unless overridden.	Settings 0-7; Default 0 for VIDEO 60, 6 for VIDEO 150LC
Phase Frequency Detector Gain Override	VIDEO 60 and VIDEO 150LC only: Allows for override of the calculated phase frequency detector gain value.	On, Off; Default Off
Fine Phase Adjust:	VIDEO 60 only: Specifies the fine phase adjust feedback direction for the PLL. Do not use unless directed by the **TSC**.	LEAD, LAG; Default LEAD
Dynamic Phase Adjust Resolution	VIDEO 150LC only: Specifies the number of steps available for the pixel clock phase delay adjustment. The value is calculated unless overridden.	0, 1, 3: Default 0
Dynamic Phase Adjust Res. Override	VIDEO 150LC only: Allows for override of the dynamic phase adjust resolution value.	On, Off; Off
Pixel Clock Timing	VIDEO 60 only: Specifies the pixel clock phase adjustment relative to the data phase for the PLL. Each step represents a phase shift of about 1 nanosecond. For RGB, 3 separate channels may be adjusted.	0 - 255; Default 0

Parameter	Description	Range
Pixel clock Delay Adjust	VIDEO 150LC only: Specifies the pixel clock phase adjustment relative to the data phase for the PLL. Each step represents a phase shift delay of about pi/8 RADIANS. For RGB, 3 separate channels may be adjusted.	0 - 15; Default 0
Control Voltage	VIDEO 150 only: VCO tuning voltage setting. Used to provide minimum jitter and fast lock-up times.	0 - 63; Default 32
HSync to Clock Delay	VIDEO 150 only: Pixel clock to horizontal sync pulse clock delay. Used to prevent line shift artifacts which may occur because of race conditions.	0 - 255; Default 0
[Auto Pixel Clock]	When pressed, automatically adjusts pixel clock phase setting to maximize pixel to pixel contrast.	N/A
[AutoControl Voltage]	VIDEO 150 only: Pressed to automatically adjust PLL control voltage setting to ensure proper lock and minimum jitter.	N/A
[AutoHSync to Clock]	VIDEO 150 only: Pressed to automatically adjust pixel clock to Hsync delay setting to minimize probability of horizontal line shift.	N/A

Figure 7–8 **VIDEO 60 INTERFACE BOARD**

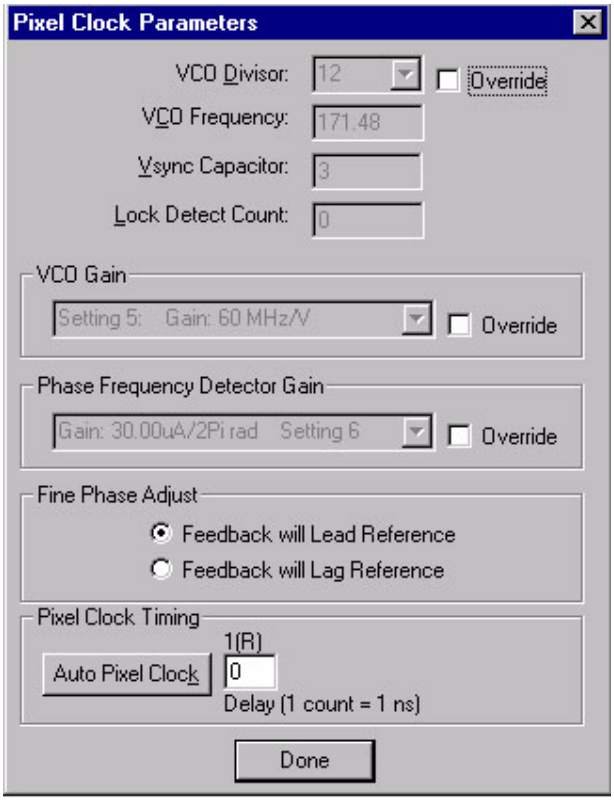


Figure 7–9 **VIDEO 150LC INTERFACE BOARD**

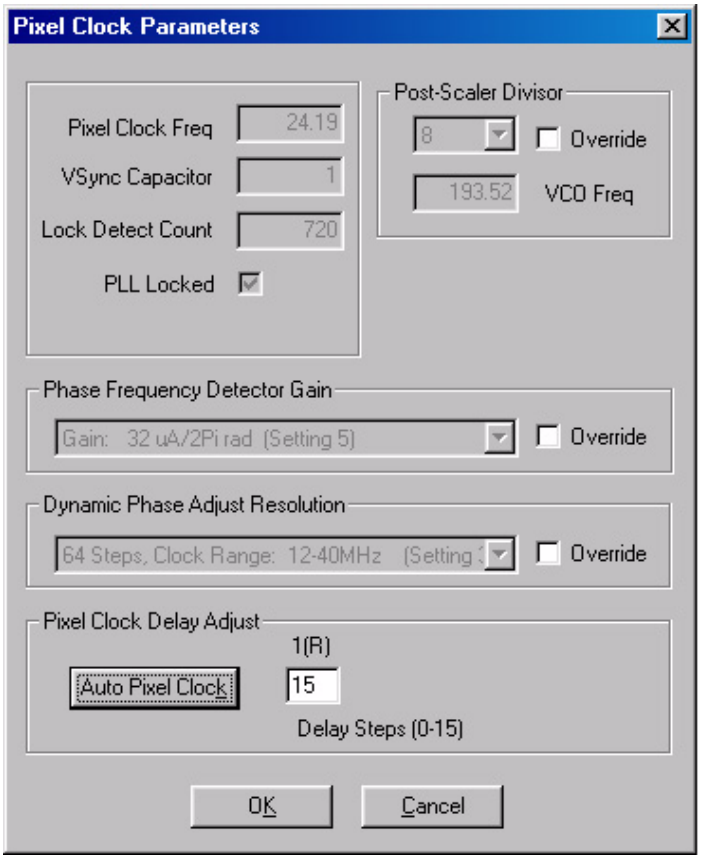


Figure 7–10 **VIDEO 150 INTERFACE BOARD**

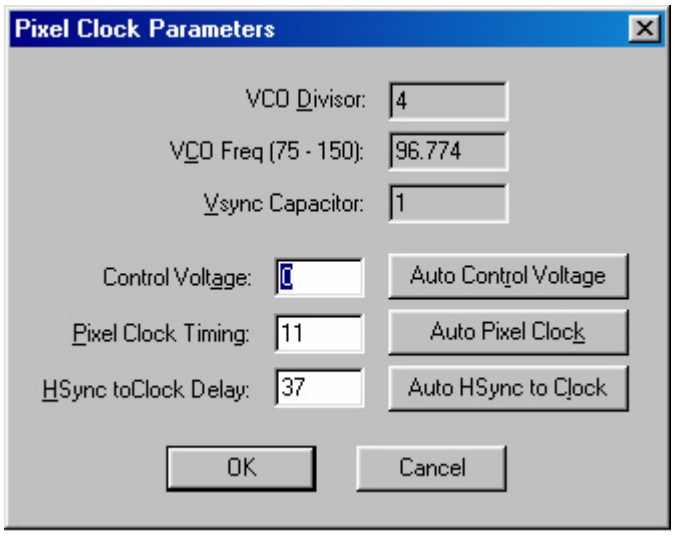


Table 7–12 Settings for Vsync Capacitor

Setting	H Line Time (microseconds)	HSync Frequency (KHz)
0	0 - 14.29	69 - 100
1	14.49 - 32.26	31 - 68.99
2	32.25 - 55.56	18 - 30.99
3	55.57 - 64.00 and higher	0 - 17.99

Using Auto Setup to Set up the VIDEO INTERFACE BOARD

Important

- The MIM must be energized for at least 5 minutes before doing "Auto Setup." The VIDEO INTERFACE BOARD requires about 5 minutes to stabilize.
- Check that the operator can send a test pattern from the MODALITY (e.g., a SMPTE or Grayscale pattern). If a test pattern is not available, choose the best clinical image with the following:
  - Grayscale with brightest and darkest values (0 to 255 A/D Counts)
  - White text on black background or black text on white background
  - Sharp transitions and vertical lines

[1] At the "MIM Service Application" window, select **Configure>Input>Direct Connect**.

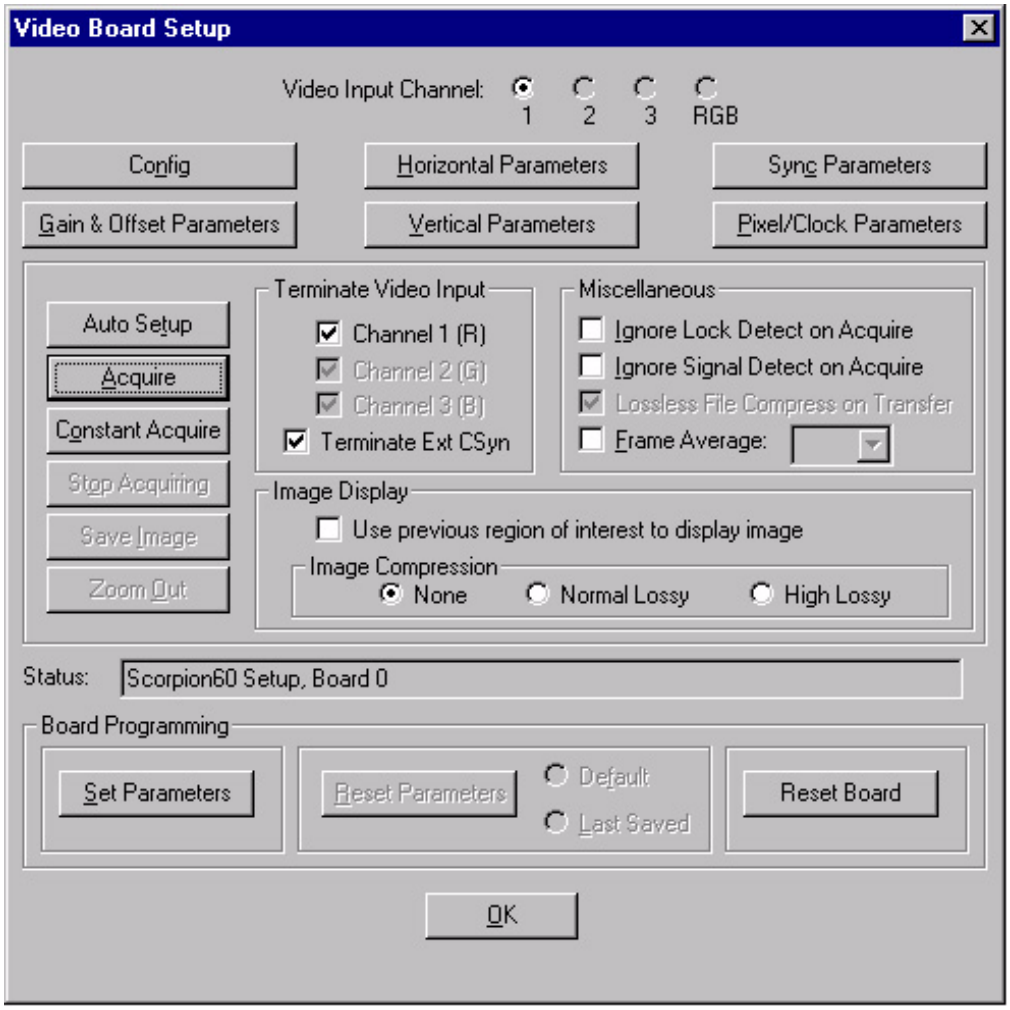
Important

A MODALITY must be set up **before** you do Step 2. Check that the MODALITY you want to configure is highlighted in the "Direct Connect Input Configuration" window.

[2] At the "Direct Connect Input Configuration" window, click:

- [Acquisition]
- [Modify]

[3] At the "Modify Parameters" window, select [OK].



Important

See Table 7–6 on Page 7–15 for descriptions of the fields and buttons in the "Video Board Setup" window.

[4] At the "Video Board Setup" window, select [Auto Setup].

[5] For the VIDEO 60 or 150 LC INTERFACE BOARD:

(a) Wait about 1 minute while the "Video Board Setup" window displays the messages indicated below, as well as other messages. The messages might occur more than once during the process. Also, the Offset and Gain messages might interchange. If Auto Setup does not finish, see Help Files "Autosetup Failures."

Auto Offset:Decreasing coarse auto offset (xx)
Auto Gain: Increasing coarse gain (xx)
Auto Pixel Clock: Computing derivatives (xx)
Auto Horizontal: Finding right black border
Auto Vertical: Finding top black border

(b) Select [Set Parameters}.

(c) At the "Video Board Setup" window, select [Acquire] to display the test image.

(d) Check the image for "ghosting."

- If ghosting is **excessive**, advance to the cable compensation adjustment on the next page.
- If ghosting is not excessive, advance to "Checking Image Quality" on Page 7–35.

Note

Ghosting is best observed in the areas of the image where the largest pixel value transition, from black to white or white to black, occurs. Ghosting occurs only for transitions in the horizontal direction.

[6] For the VIDEO 150 INTERFACE BOARD:

(a) Wait about 2 minutes until the "Status" line in the "Video Board Setup" window displays the message "Auto Board Setup Complete." The "Status" line shows each of the 9 setup tasks when they occur. See Table 7–13. If Auto Setup does not finish, see Help Files "Autosetup Failures."

(b) Select [Set].

(c) Advance to "Checking Image Quality" on Page 7–35.

Table 7–13 The 9 Tasks Completed During [Auto Setup] for the VIDEO 150 INTERFACE BOARD

No.	Tasks Displayed in Status Line	Associated Parameter Window: Field
1	"Input source sync auto-set"	Video Sync Parameters: [Auto Hsync] and [Auto Vsync]
2	"PLL control voltage auto set"	Pixel Clock Parameters: [Auto Control Voltage]
3	"PCLK to Hsync auto-align"	Pixel Clock Parameters: [Auto Hsync to Clock]
4	"Gains and offsets auto-level"	Gain and Offset Parameters: [Auto Level]
5	"Horizontal auto-framing"	Horizontal Parameters: [Auto Horizontal Centering]
6	"PCLK to Data Phase auto-align"	Pixel Clock Parameters: [Auto Pixel Clock]
7	"Horizontal auto-framing"	Horizontal Parameters: [Auto Horizontal Centering]
8	"Vertical auto-framing"	Vertical Parameters: [Auto Vertical Centering]
9	"Auto setup end"	Indicates completion of Auto Setup.

Cable Compensation Adjustment for VIDEO 60 and 150LC INTERFACE BOARDS

Warning

This procedure should not be done unless it is absolutely necessary. Noise or other artifacts can be induced if the adjustment is not done properly.

Important

VIDEO CABLE lengths are from 2 to 45 meters, with 10 meters the standard length. For a long CABLE the compensation may have to be increased. For a short CABLE the compensation may have to be decreased.

[1] At the "Video Board Setup window, set the "Image Compression" value to "None."

[2] Acquire a test image.

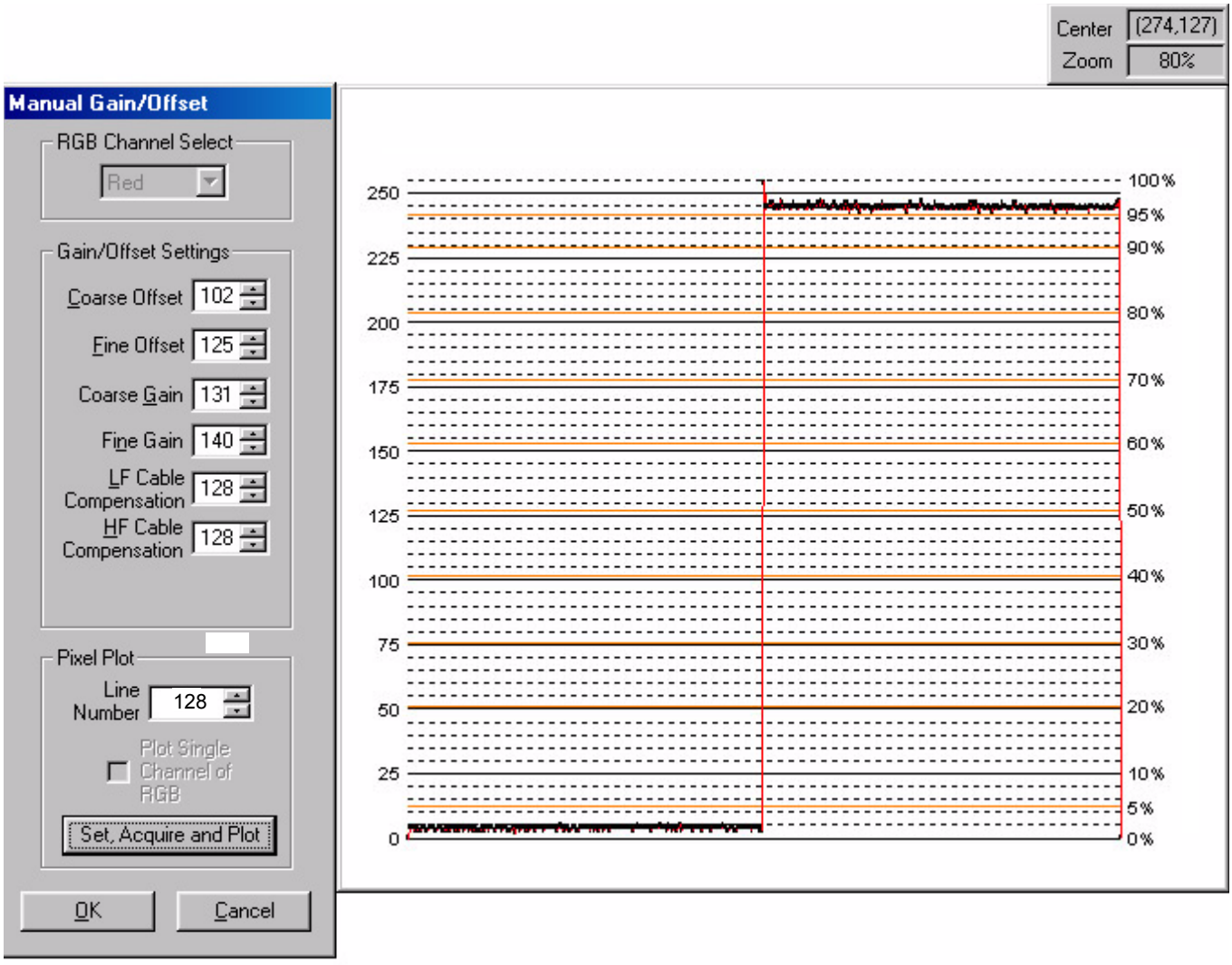
[3] In the image viewer window, determine the line number you wish to view and move the cursor to this line.

[4] At the "Video Board Setup" window, click [Gain & Offset Parameters].

[5] At the "Gain and Offset Parameters" window, click [Manual Adjustment Tool].

Note

The 'Manual Gain/Offset" window can be used to display 1 line of video as a linear graph to aid in adjusting the cable compensation parameters.



[6] Enter the line number selected in Step 3 into the Line Number dialog box, and click [Set, Acquire and Plot].

Note

You can zoom in on the transition by placing the cursor on the area and clicking the left mouse button. You can use the right mouse button to zoom back out.

[7] See Figure 7–11 to determine whether compensation needs to be increased or decreased. Note that the HF (High Frequency) adjustment affects primarily the first pixel after the transition, and the LF (Low Frequency) adjustment affects multiple pixels after the transition.

[8] Change compensation values in small increments in the LF or HF Cable Compensation box. Never increase or decrease a value by more than 10 before viewing the results.

Note

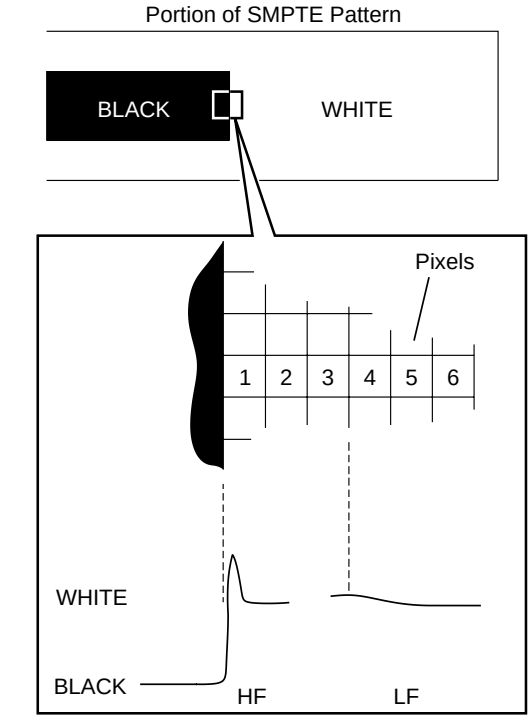
The range of adjustment is 0 - 255, and the normal setting for both HF and LF compensation is 128. Decreasing the compensation number will increase the amount of compensation. Increasing the number will decrease the amount of compensation.

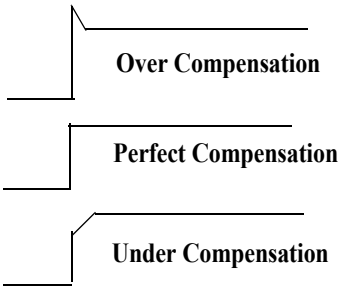
[9] After changing compensation values, click [Set, Acquire and Plot] to view the results.

[10] Run Auto Setup again (see page 7–31) and check for ghosting again.

[11] If necessary, repeat this cable compensation adjustment to remove ghosting.

Figure 7–11 **HF and LF Cable Compensation Parameters**



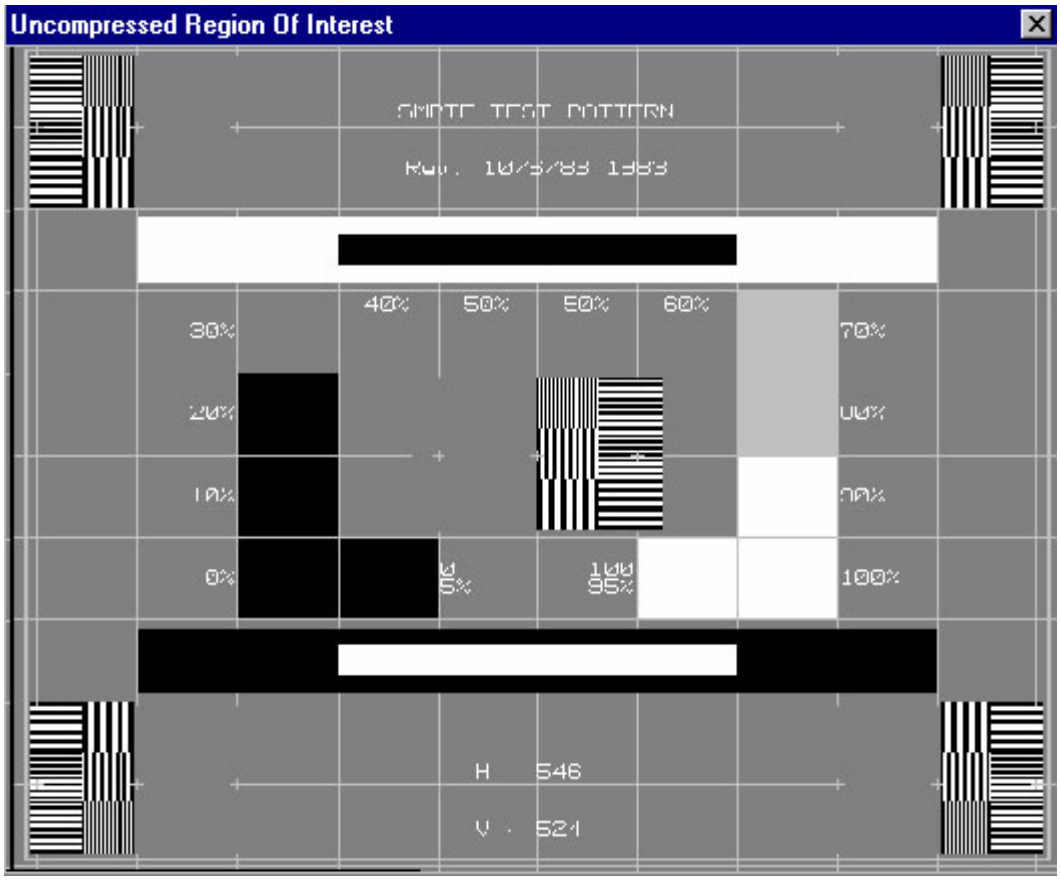


Important

The High Frequency (HF) response occurs at the transition of black and white in the SMPTE. The Low Frequency (LF) response begins at pixel 4.

Checking Image Quality

[1] After Auto Setup and the cable compensation adjustment (if performed), select [Acquire] at the "Video Board Setup" window to display a test image.



[2] Select a Region of Interest (ROI) and display the uncompressed ROI image:

(a) Use the MOUSE to click-and-drag a rectangle around an ROI: You must drag the MOUSE from the top-left position of the ROI to the bottom-right position of the ROI.

(b) Release the MOUSE click. The uncompressed image displays.

Important

- If this is color video, check each of the Red, Green, and Blue pixels in the following steps.
- To determine pixel values, check the "Pixel Value" window while you move the cursor across the image.
- You might have to execute more than 1 acquire to evaluate the quality of the image.
- To make a histogram, do Step 2 again within the existing uncompressed image.
- You can right click the MOUSE to zoom on a specific area of the ROI.

[3] Check the properties for the test image:

- Correct Gain and Offset:

  Brightest white: Pixel value of 253 $\pm$ 2 counts

  Darkest Black: Pixel Value of 2 $\pm$ 2 counts

  Visible 5% and 95% grayscale values if you display the SMPTE pattern.
- Centered horizontally and vertically
- Correct clock timing: **No** visible pixel shift or line shift
- Straight, undistorted horizontal and vertical lines
- Clear text. Ask the operator to type more text, if necessary.

- Sharp transitions between maximum and minimum grayscale values

[4] Use Table 7-14 as a troubleshooting guide after the quality check. If the video gain and offset parameters are not at acceptable levels, advance to:

VIDEO BOARD	Procedure
60 and 150LC	"Using Advance Leveling to Define Black and White Values"
150	"Adjusting Gain and Offset"

Table 7–14 Troubleshooting Guide for the Acquired Image

Malfunction	Remedy
Maximum grayscale counts **not** 253 $\pm$ 2 counts. Minimum grayscale counts **not** 2 $\pm$ 2 counts.	In the "Video Gain and Offset Parameters" window: Adjust the values for Coarse Gain and Coarse Offset. Adjusting by 1 count will change pixel value by approximately 3-4. Adjust the values for "Fine Gain" and "Fine Offset." Adjusting by 3 counts will change pixel value by approximately 1. (If using color video, adjust the values of each color separately.) Increasing the "Gain" will cause the white pixel counts to increase without affecting the black pixels. Increasing the "Offset" will cause the white and black pixel counts to increase.
Pixel shift or line shift in the vertical lines or in the text of the image.	Check that the MONITOR of the MODALITY displays the correct test image. Execute [Auto Setup] again. Ask the operator to add more text to the image if you do not have sufficient text to evaluate.
The acquired image does not include all of the image information that the MODALITY monitor displays.	In the "Video Vertical Parameters" window, adjust the values for the "Images Lines / Frame." In the "Video Horizontal Parameters" window, adjust the values for the "Image Pixels / Line." Increasing these values will increase the area of the image that the VIDEO INTERFACE BOARD requires.
Image is too high or too low on film.	In the "Video Vertical Parameters" window: Adjust Vertical Back Porch for VIDEO 150. Adjust Vertical Shift for VIDEO 60 and 150LC.
Blurred text.	In the "Video Vertical Parameters" window, swap fields.

Using Advanced Leveling to Define Black and White Values

Note

This procedure applies only to the VIDEO 60 and 150LC VIDEO INTERFACE BOARDS.

[1] At the "Video Board Setup" window, click [Acquire].

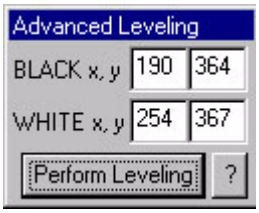
[2] In the "Uncompressed Region Of Interest" window, hold and drag the left mouse button to select a region of interest, including a grayscale area. The "Uncompressed Region of Interest" screen is displayed.

[3] Select a Region of Interest (ROI) to include grayscale:

(a) Use the MOUSE to click-and-drag a rectangle around an ROI: You must drag the MOUSE from the top-left position of the ROI to the bottom-right position of the ROI.

(b) Release the MOUSE click. The uncompressed image displays.

[4] Move the cursor to the blackest point of the screen. Hold the "b" key and press the right MOUSE button. The x and y coordinate values will be entered in the Black area of the "Advanced Leveling" window.



[5] Move the cursor to the whitest point of the screen. Hold the "w" key and press the right MOUSE button. The x and y coordinate values will be entered in the White area of the "Advanced Leveling" window.

[6] In the "Advanced Leveling" window, select [Perform Leveling].

[7] Close the Region Of Interest window.

[8] In the "Video Board Setup" window, select [Set Parameters].

[9] Select [Acquire].

[10] Select a Region of Interest (ROI) to check the gain and offset values:

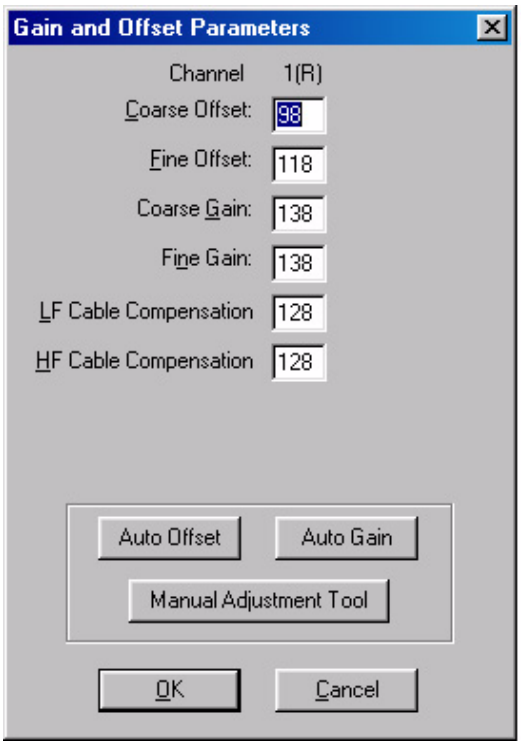
(a) Use the MOUSE to click-and-drag a rectangle around an ROI: You must drag the MOUSE from the top-left position of the ROI to the bottom-right position of the ROI.

(b) Release the MOUSE click. The uncompressed image displays.

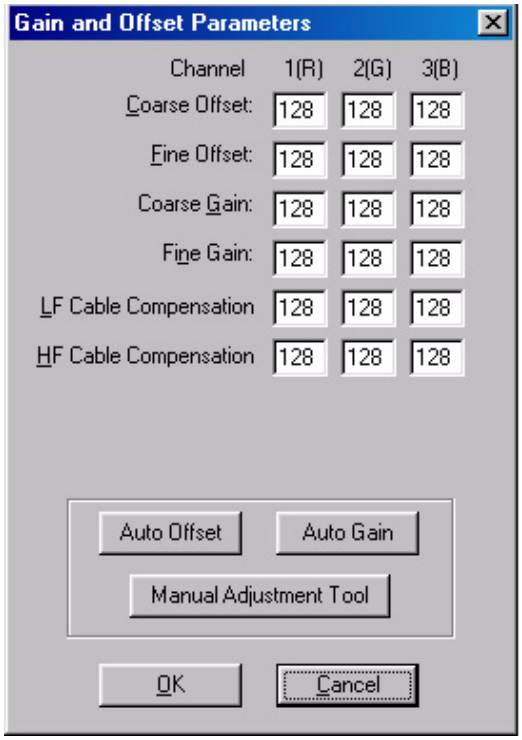
[11] If gain and offset are still not acceptable, advance to the next procedure to adjust gain and offset.

Adjusting Gain and Offset

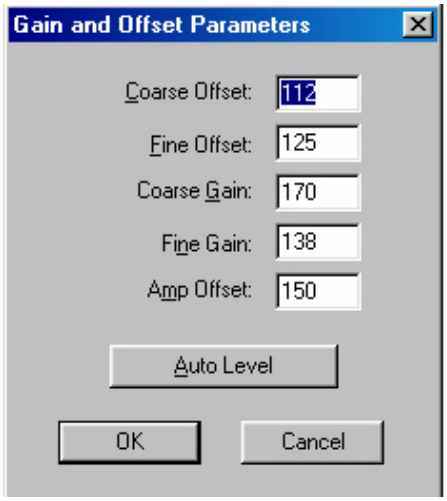
[1] At the "Video Board Setup" window, click [Gain & Offset Parameters].



VIDEO 60 AND 150LC BOARD- Monochrome



VIDEO 60 and 150LC - RGB Color



VIDEO 150 BOARD

[2] Select the necessary dialog box. See Table 7-14.

[3] Enter the changes and select [OK].

[4] At the “Video Board Setup” window, select [Set Parameters].

[5] View the image and repeat the adjustment as necessary.

[6] After completing the adjustment, click [OK] in the “Gain and Offset Parameters” window.

[7] Click [Set Parameters] in the Video Board Setup” window.

[8] To see the image and check the changes you have made, click [Acquire] in the “Video Board Setup” window.

[9] If necessary, repeat the adjustment procedure.

[10] When you are satisfied with the test image, click [OK] in the “Video Board Setup” window.

[11] After completing video adjustment, advance to:

Primary Control Type	Procedure
Autofilming	“Setting Up the MIM for Autofilming” in next procedure.
KEYPAD	Do in turn the procedures that apply to this site: • “Setting Up a Network Print Destination.” • “Setting Up a Network Store Destination.”

Notes on Adjusting Image Quality

Optimum image quality can be achieved from the MIM by adjusting the video signal and parameters. In a video environment, the process begins with a good video signal. This signal must then be adjusted in the MIM. Check that you have done the following:

- Use the correct parameters to acquire the video signal for digitization.
- Check that the image is centered correctly - both vertically and horizontally.
- Set the gain and offset correctly to obtain the correct black and white values. See “Defining Black and White Values (Using the Advanced Leveling Feature)”.
- The pixel clock must be correctly timed with the data signal pixels.

The VIDEO INTERFACE BOARDS have an Auto Setup feature that will accomplish this setup when the correct video signal is provided. When the algorithm has completed, check the image for the correct values for gain and offset. For optimum quality in monochrome images, the black value should be 2 ±2 and the white value should be 253 ±2. If the adjustment is for color images, these values should be 1 -1/+0 (0 or 1) for black and 254 +1/-0 (254 or 255) for white. Check these values in the red, green and blue color plane for the correct values.

“Advanced Leveling” is a feature of the VIDEO 60 and 150LC INTERFACE BOARDS. It allows the user to choose a position for black and white values. Normally, the MIM uses the entire image to find a part that it calls black and white. When a MODALITY provides a computer-generated grayscale, the black and white points can be selected from it. This will provide a known black and white point for the MIM to use to adjust gain and offset. After this algorithm runs, you should check the images for the proper gain and offset values. This feature can be especially useful for Ultrasound images and can be used for images from all MODALITIES. See “Using Advanced Leveling to Define Black and White Values.”

- Print a page of images to check that the timing is correct.
- Check that transitions from black to white are sharp and clear.
- Print a curve series, contrast series, or color print matching series.

In versions of software prior to V_3.2, only the curve series or the color print matching series could be run. The **curve series** is used for the 2180 and 1120 LASER PRINTERS. Different contrast settings will produce a different looking image when printing the curve series. 11 contrast settings can be used. The user can select from 6 curve shape prints for each contrast setting.

The **contrast series** is used for all *Kodak DryView* LASER IMAGERS and any IMAGERS connected to the 9410 ACQUISITION SYSTEM. The correct TFT/ULUT (Transfer Function Table/Universal Look Up Table) should be selected before printing this contrast series. The user can select from 16 images in the series. The 160 LASER IMAGER requires the use of this contrast series to adjust image quality.

Setting the curve shape and the contrast settings depends on the MODALITY. Some Autofilming links will send the values to use, and some will use the default settings in the MIM.

The contrast setting could be sent with the DICOM information, but defaults in the MIM are used in case these values are not sent. In versions below V_3.2, only one default value was used by all Service Class Users (SCUs). Starting with V_3.2, the default values for each SCU can be set at the MIM.

Starting with V_3.2, the SCU sends the MODALITY type, body part, and image tone adjustment information to the print and storage destinations. The MODALITY type can be set up using the “MIM Service Application” and the body part (if series is enabled) can be selected at the TOUCHSCREEN KEYPAD. The MODALITY type and body part information is useful when sending to storage destinations to enable hanging protocols and features of certain WORKSTATIONS. MODALITY type is useful when sending DMI print destinations through the network to select image processing techniques.

Setting Up the MODALITY SERVER for Autofilming

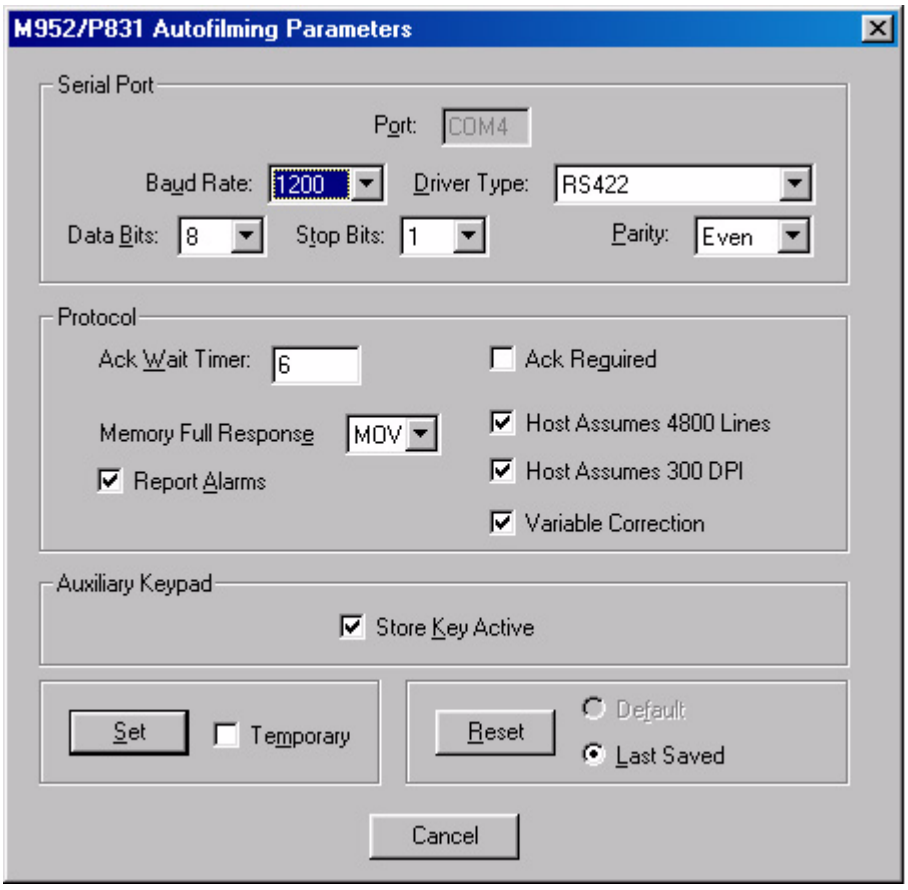
Important

- For Autofilming, an RS232 or RS422 CABLE must be connected between the MODALITY and the MIM.
- Current MIMS use only RS422.
- For Autofilming connections that require RS232, install the CONVERTER KIT 8B8186 (Catalog No. 121-2018) to changes the RS232 signal to RS422.
- Check the MODALITY DATABASE for information on parameters.

[1] At the "Direct Connect Input Configuration" window, click:

- [Autofilming]
- [Modify]

[2] At the prompt "Are you sure?" click [OK]. The "Autofilming Parameters" window displays.



[3] At the window for the type of Autofilming at the site, enter the correct information. See Table 7–15 and Table 7–16.

[4] If you did not change information, click [Cancel].

[5] If you changed information, click [Set].

Important

After changing the setup information, you must click [Set] or the changes will be lost.

[6] After setting up for Autofilming, advance to "Setting Up a Network Print Destination."

Table 7–15 Default Values for Autofilming Link Parameters

Parameter	Autofilming Link						
	Hitachi	KCL	M952/ P831	Siemens or 3M*		Toshiba	YMS
				SPCI/FSPOT	DASM		
Port ID	--	--	--	--	--	--	--
Baud Rate	4800	9600	1200	2400	4800	9600	1200
Driver Type	RS422	R2332**	RS422	RS232**	RS232**	RS422	RS422
Data Bits	8	8	8	7	8	7	8
Stop Bits	1	1	1	2	1	1	2
Parity	even	none	even	odd	even	even	odd
ACK Wait Timer	3	5	6	2	2	1	--
Ack Required	--	--	No	--	--	--	--
Memory Full Response	--	--	MOV	--	--	--	--
Host Assume 4800 Lines	--	--	No	--	--	--	--
Report Alarms	--	--	On	--	--	--	--
Host Assume 300 DPI	--	--	No	--	--	--	--
Variable Correction	--	--	Yes	--	--	--	--
Store Key Active	active	active	active	--	--	active	active
Receive Message Timer	--	5	--	--	--	1	--
Start Timer	--	2	--	1	1	--	--
EOT Wait Timer	--	--	--	--	--	10	--
Switch Mode	--	KEYPAD	--	--	--	KEYPAD	--
Switch Handling	--	Not Allowed	--	--	--	--	--
Automatic Film Type Selection	--	--	--	Off	Off	--	--
DTR Connect	--	--	--	--	--	On	--
Default Horiz. Frames	--	--	--	--	--	3	--
Default Vertical Frames	--	--	--	--	--	4	--
Autoprint	--	--	--	On***	On***	--	--
AutoFormat	--	--	--	On***	On***	--	--
Interpolation: Sharp	--	--	--	Replication***	Replication***	--	--
Interpolation: Smooth	--	--	--	Cubic Spline***	Cubic Spline***	--	--
Emulate 3M	--	--	--	--	--	Off	Off
Extended Page Formats	--	--	--	--	--	--	On

Notes:
* For all *Kodak DryView* LASER IMAGERS and 969/8800, select "*3M*" parameters for the Primary Control Type. For the 160 LASER IMAGER, and 1120 and 2180 LASER PRINTERS, select "Siemens" for the Primary Control type.
** Allowed by the MIM 100 only. All other models must have RS232 changed to RS422. See the "Important" at the top of Page 182.
*** Applies to 3M-Siemens only.

Table 7–16 Autofilming Parameter Definitions and Range

Item	Description	Range
Port Id	SERIAL COMMUNICATIONS PORT	MIM 100: COM 4, MIM 200: COM 4, 6, 8, OR 10
Baud Rate	Baud Rate of the SERIAL COMMUNICATIONS PORT.	300, 1200, 2400, 4800, 9600
Driver Type	Driver protocol of the SERIAL COMMUNICATIONS PORT.	MIM 100: RS422 MIM 200: RS422
Data Bits	Number of bits for serial communications.	7, 8
Stop Bits	Number of stop bits for serial communications.	1, 2
Parity	Setting of parity for SERIAL COMMUNICATIONS PORT.	None, Even, Odd
ACK Wait Timer*	Acknowledgment wait timer. The time in seconds that the MIM will wait after it sends a message until the Imaging Device acknowledges that it received the message.	1 - 999
Ack Required*	Determines whether or not an acknowledgment is required from the “host.”	Yes, No
Memory Full Response*	Specifies what the Memory Full response should be for the “host.”	MOV, BSY
Host Assume 4800 Lines*	Specifies whether the “host” assumes that the destination has 4800 lines on a page.	Yes, No
Report Alarms*	Flag that indicates if the MIM should report to the MODALITY alarm conditions associated with the PRINTER.	On, Off
Host Assume 300 DPI*	Specifies whether the “host” assumes that the destination has 300 DPI.	Yes, No
Variable Correction*	Specifies whether the MIM will attempt to reduce the number of lines in the last image band to fit the film (without minifying the image).	Yes, No
Store Key Active*	Determines if [Store] on the KEYPAD is active when the system uses auxiliary control.	Active, Inactive
Receive Message Timer*	Specifies the amount of time in seconds allowed to receive an entire message.	1 - 999
Start Timer*	Specifies the amount of time in seconds that the MIM waits for the Imaging Device to reply to a handshake character.	1 - 999
EOT Wait Timer*	Specifies the amount of time in seconds that the MIM waits to receive an End of Transmission (EOT) character from the Imaging Device.	1- 999
Switch Mode*	Allows you to designate printing films using either the Console of the Imaging Device (Host) or the Auxiliary KEYPAD.	Keypad, Host
Switch Handling*	The process used to handle stored images when filming is switched between the“host” and the Auxiliary KEYPAD.	Not Allowed
Automatic Film Type Selection*	Flag that indicates if the SUPPLY MAGAZINE in the LASER PRINTER must be used to automatically select the film size and film base.	On, Off
DTR Connect*	Specifies the amount of time in seconds the MIM must wait for the Imaging Device to respond to a handshake character.	On, Off
Default Horizontal Frames*	The number of horizontal frames in page format that the MIM defaults to.	1 - 9
Default Vertical Frames*	The number of vertical frames in page format that the MIM defaults to.	1 - 9
Autoprint*	Flag that indicates if the MIM should automatically print the page when the last image on the page is stored.	On, Off

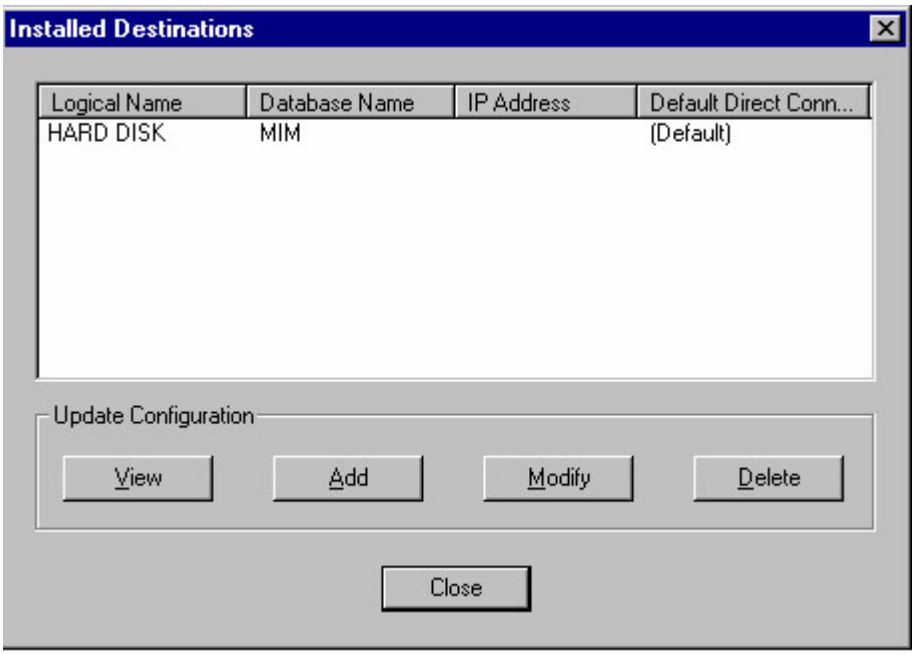
Item	Description	Range
AutoFormat*	Flag that indicates if the MIM should automatically set up for a new page of the same format after it makes a print of a page.	On, Off
Interpolation: Sharp*	Specifies the type of interpolation to use when the MODALITY selects Sharp interpolation.	Bilinear, Cubic Spline, Cubic Convolution 2, Cubic Convolution 3, No Magnification, Replication
Interpolation: Smooth*	Specifies the type of interpolation to use when the MODALITY selects Smooth interpolation.	Bilinear, Cubic Spline, Cubic Convolution 2, Cubic Convolution 3, No Magnification, Replication
Emulate 3M*	Specifies whether the *Toshiba* or YMS Autofilming link will emulate the behavior of the *3M Toshiba* or YMS interface.	True, False
Extended Page Formats*	Flag that determines if the MIM will allow the extended page formats (15:1, 16:1, 20:1, 24:1) that can be selected at the Auxiliary KEYPAD. Older YMS Imaging Devices do not support the new page formats.	Yes, No
Note: Parameters indicated by * do not apply to all types of Autofilming.		

Setting Up a Network Print Destination

Important

See the tables on 7–49 and following for detailed information on the Destination Parameters.

[1] At the "MIM Service Application" window, select **Configure>Destination**. The "Installed Destinations" window will display.

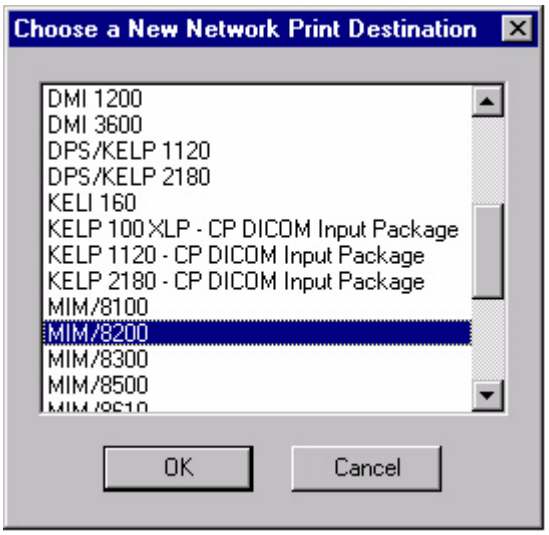


Important

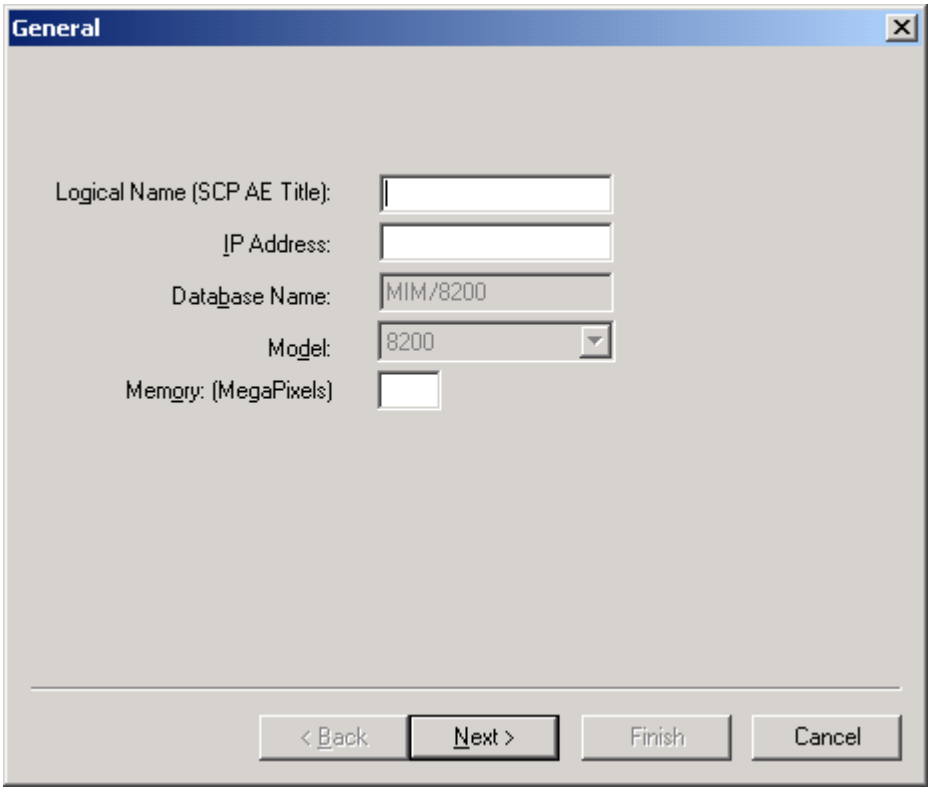
The following procedure for installing destinations must be done for each network destination.

[2] At the "Installed Destinations" window, select from the "Update Configuration" panel the following sequence:

- [Add]
- [Print]
- [Network]
- [Qualified]

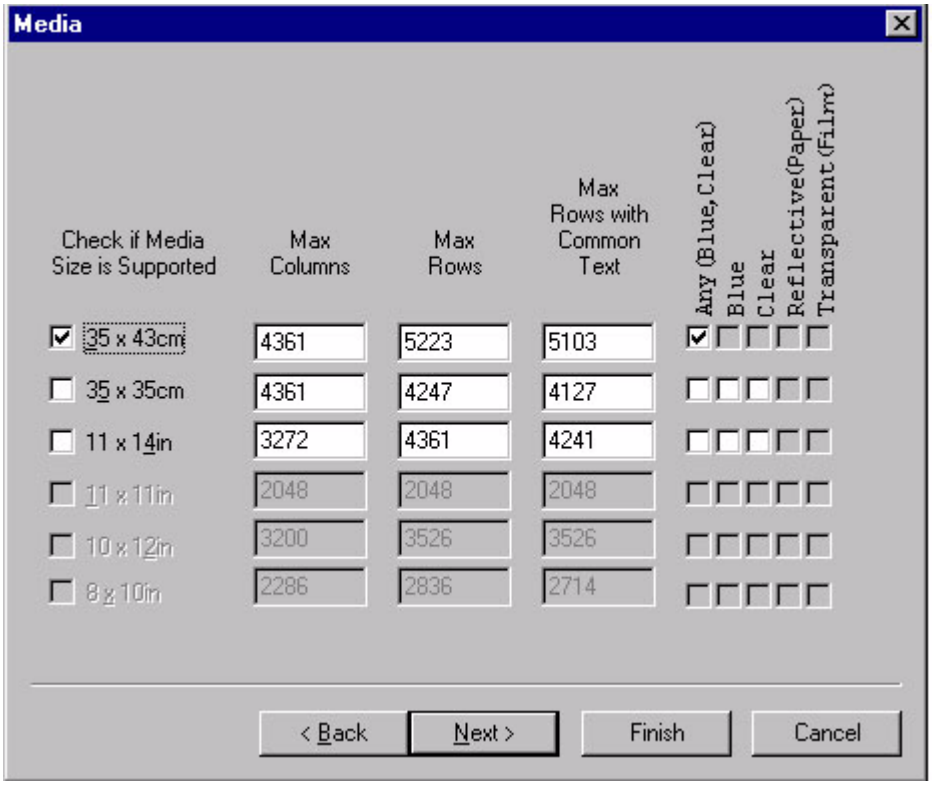


[3] At the "Choose a New Network Print Destination" window, select the correct SERVER/PRINTER combination from the list and then click [OK].



[4] At the "General" parameters window, enter the Logical Name for the destination, the IP Address, and the Memory value.

[5] Click [Next].



Important

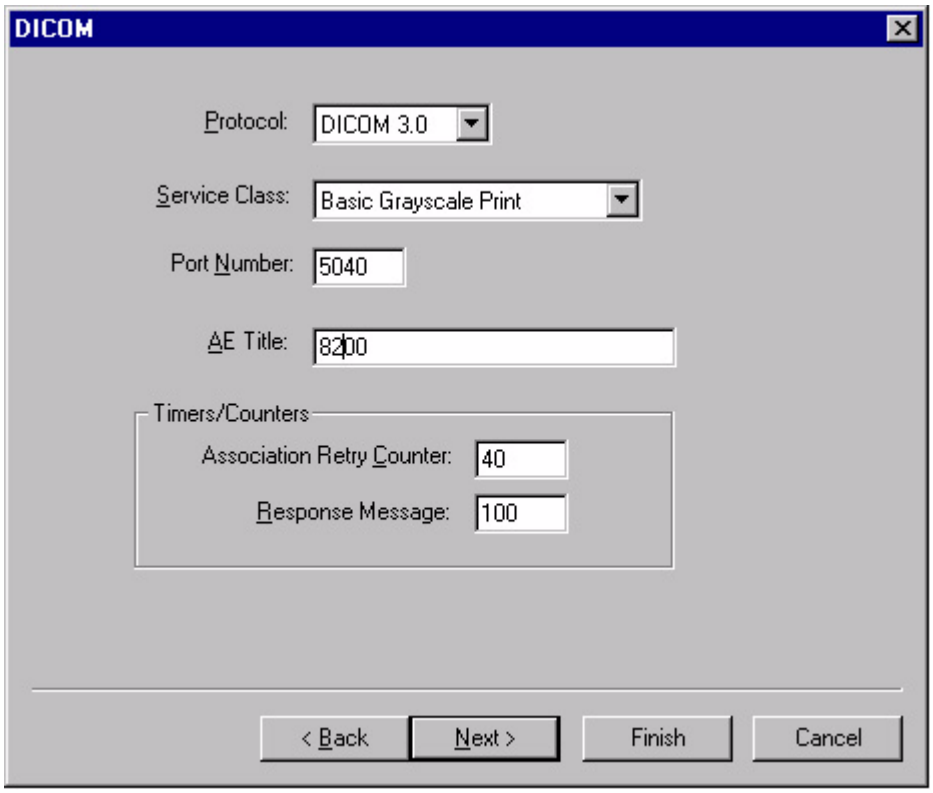
You must select a media base for each media item selected in the “Media” window.

[6] In the “Media” window, select **all** media that the customer will use.

Note

The numbers the “Media Information” window displays on the LAPTOP COMPUTER might not match the numbers displayed on the screen.

[7] After entering the media parameters, click [Next].



[8] At the DICOM window, check the following parameters:

- Protocol: DICOM 3.0
- Service Class: Basic Grayscale Print
- Port Number: Enter as necessary by the SCP.
- AE Title: Enter as necessary by the SCP.
- Timers/Counters: Accept the defaults.

Important

With Version 5.0 and higher, the application software for the MIM automatically selects defaults for these destination parameters. To select values other than the defaults, click [Next] to proceed to the "Supported Items" window and to windows for the other groups of parameters.

[9] Click [Finish] to select the defaults for these destination parameters:

- Supported Items
- Interpolation
- Format Types
- Page Formatting
- Image Processing
- M952 Usage

Note

When [Finish] is clicked, the "Installed Destinations" window will display and the MIM will process the parameter information.

[10] When processing is completed, click [Close].

Important

You must repeat the destination setup procedure for each network print destination.

[11] To check that the network destinations are correctly set up:

(a) Start the “MIM Service Application” and select **Diagnostics>Network**.

(b) Execute a Ping and/or DICOM Echo:

- Enter the IP Address of the new destination for a Ping.
- Enter the IP Address, port number and AE title for a DICOM Echo.

(c) Click [OK].

(d) Click [Cancel] from the “Network Diagnostics” window.

[12] After completing the network print destination setup, use the table below to advance to the correct procedure:

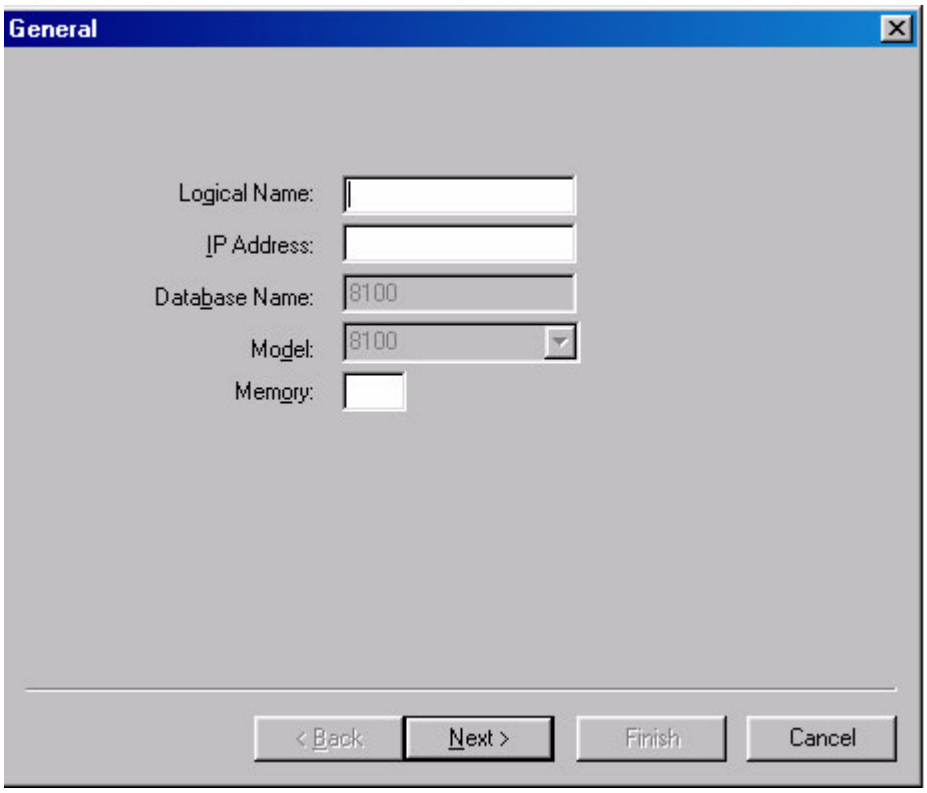
Procedures to Complete:	Advance to:
Does the MODALITY SERVER have Store Destinations?	“Setting Up a Network Store Destination” on Page 7–60
Will the MODALITY SERVER be connected to an HIS/RIS Gateway?	“Setting Up the MODALITY SERVER for a HIS/RIS Gateway” on page Page 7–68
Has the FOOTSWITCH been modified for the MODALITY Store Option?	“Setting Up the MODALITY SERVER for the MODALITY Store Option” on page Page 7–75
Have you finished setting up the MODALITY SERVER?	Section 8, Obtaining Optimum Images

Parameter Tables

Important

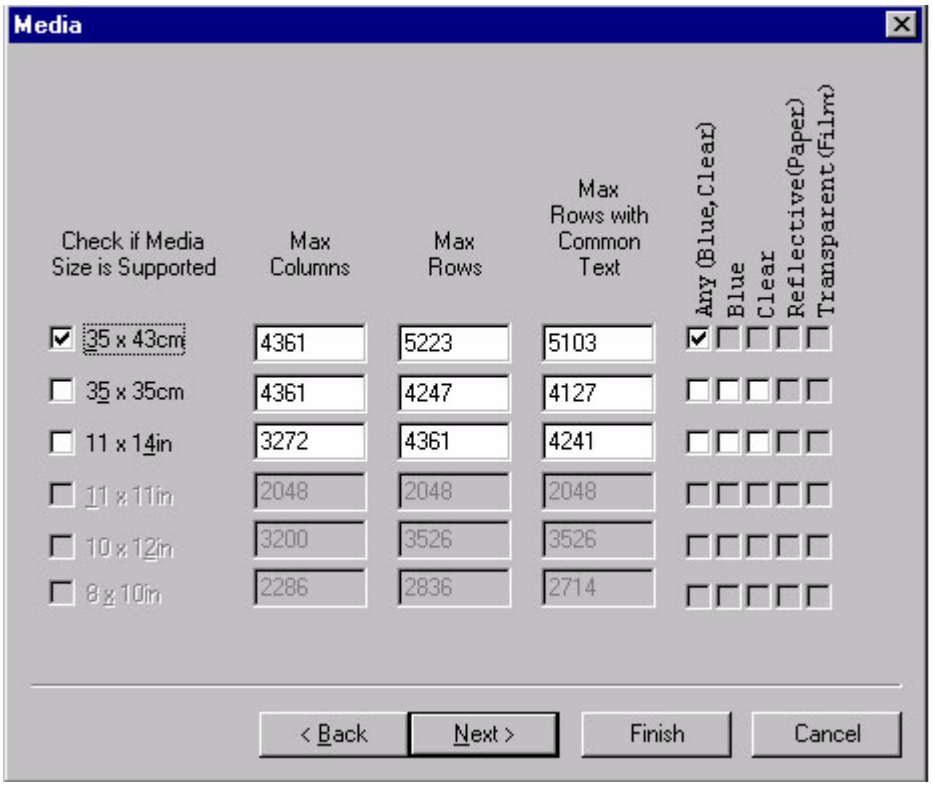
- Do not modify any of the items in the following tables for a **qualified** destination unless directed to by the TSC. If an item is not checked in the “Supported Items” or Media Information” window, the customer will not be able to access that item.
- The KEYPAD will not display features or functions that are not allowed.

Table 7–17 General Parameters - for Print Destinations



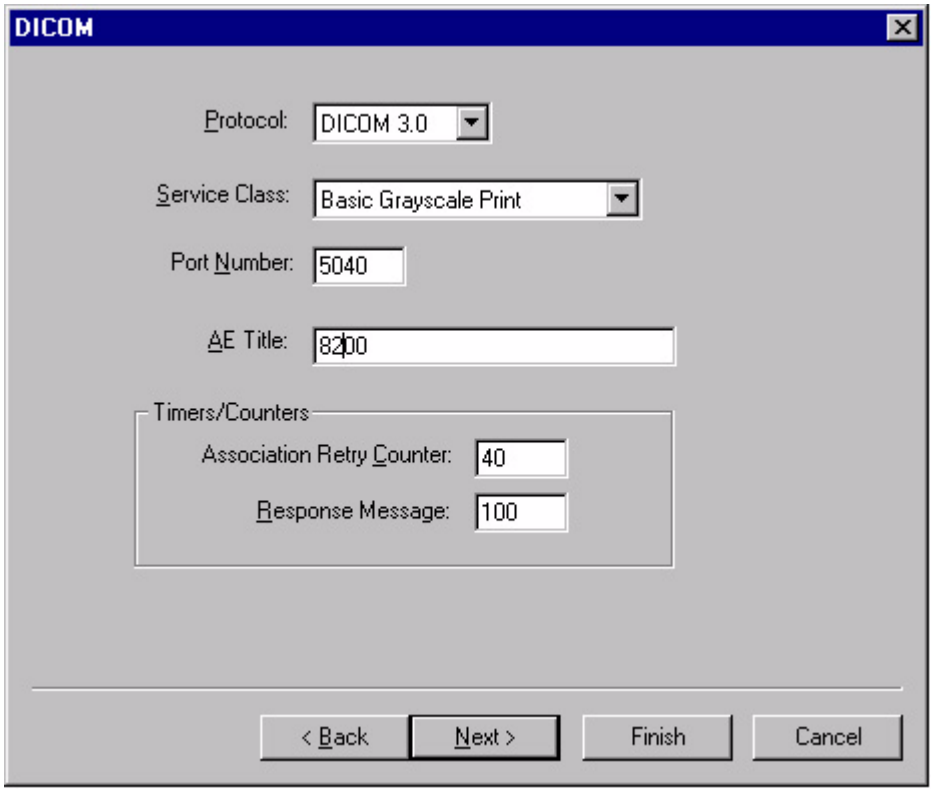
Item	Description	Range
Logical Name	Site-specific name for a particular Destination. The KEYPAD displays this name when the operator selects a Destination. The MIM requires a logical name that is unique across all currently installed destinations.	1 - 9 alphanumeric characters **No** spaces allowed. Underscores are allowed.
IP Address (This will be blank for a Direct option.)	Site-specific address that uniquely identifies the Destination on the network. The Service Application for the MIM requires the user to enter a value. Duplicate IP Addresses for installed destinations are acceptable if the DICOM AE Titles are unique for each destination.	4 fields of 0 - 255 where each field is separated by a period: For example: 149.110.98.10.
Database Name	The name of the Destination if it is being installed using a known destination from the qualified destination database. This is a “view only” field.	1 - 13 alphanumeric characters
Model	The model of the Destination. The MIM uses this data to optimize the page format validation for the particular Destination. This is a “view only” field.	1 - 12 alphanumeric characters. *Kodak* Ektascan LASER PRINTERS, *Kodak DryView* LASER IMAGERS, 160 LASER IMAGER, *Kodak* PACS LINK 9410 ACQUISITION SYSTEM.
Memory	Memory in megabytes residing in the Destination. The MIM uses this value to validate the format. This value is site-specific. The Service Application requires a value in this field.	1 - 99. For the 2180 and 1120 LASER PRINTERS, obtain page store information from the printer’s CES port.

Table 7–18 Media Information - for Print Destinations



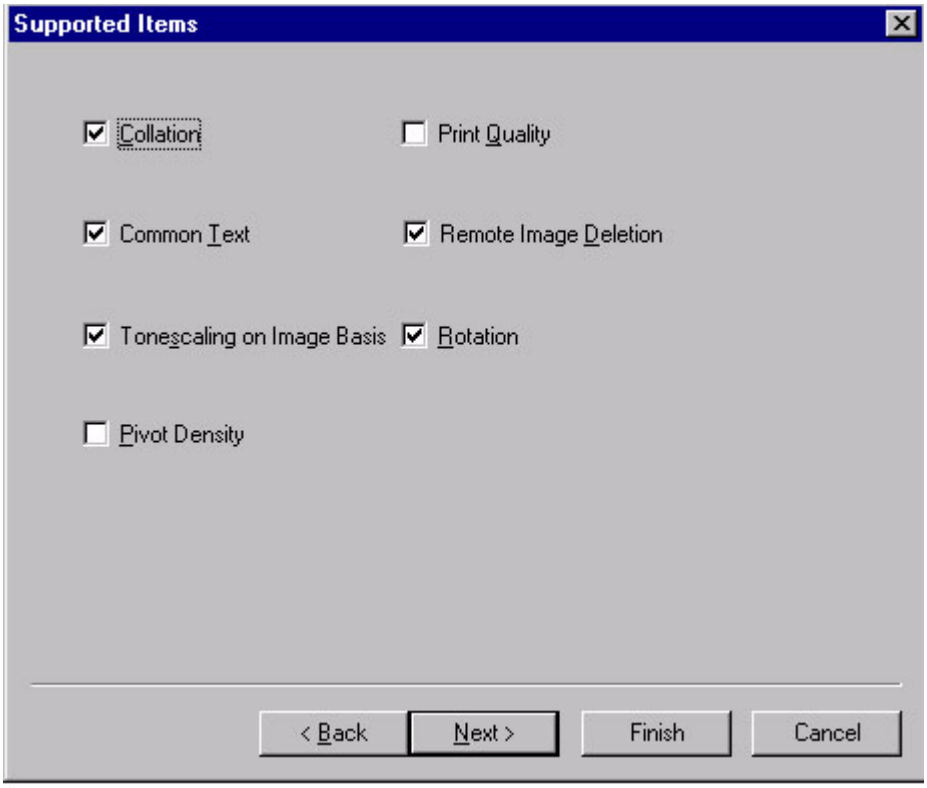
Item	Description	Range
[**Media Info**]	Select [Media Info] to display the Media Information indicated in this table.	N/A
Size	Media sizes allowed by the Destination.	35 x 43 cm 35 x 35 cm 11 x 14 in. 11 x 11 in. 10 x 12 in. 8.5 x 11 in. 8 x 10 in. 4 x 6 in. A4
Maximum Columns	Maximum number of printable pixels in the x-direction for a particular media size. Maximum columns can be selected for each media size. The MIM uses this parameter to validate the format.	1 - 9999
Maximum Rows	Maximum number of printable pixels in the y-direction for a particular media size. Maximum rows are selectable for each media size with or without common text. The MIM uses this parameter to validate the format.	1 - 9999
Maximum Rows with Common Text	Maximum number of printable pixels in the y-direction for a particular media size. Maximum rows can be selected for each media size with or without common text. The MIM uses this parameter to validate the format.	1 - 9999
Types	Media types allowed by the Destination. Media types can be selected for each media size. “Any” indicates that the Destination will use the media type that matches the media size selected (blue or clear). The selections “Reflective” and “Transparent” are valid for color printing.	Any, Blue, Clear, Reflective (Paper), Transparent (Film).

Table 7–19 DICOM Parameters - for Print Destinations



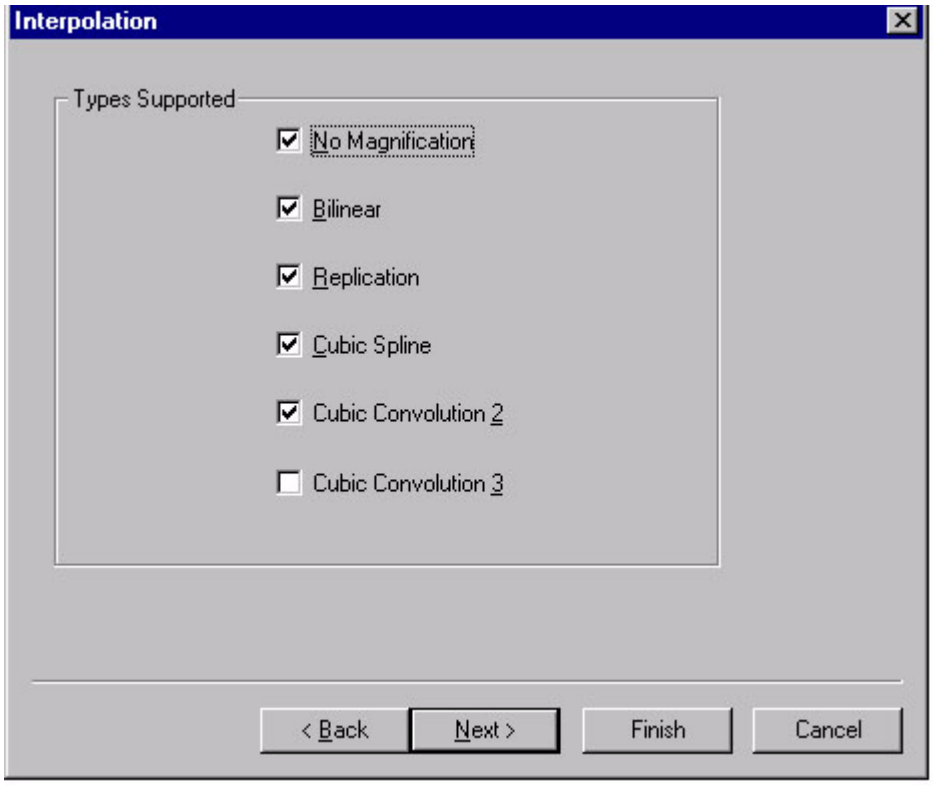
Item	Description	Range
Protocol	Protocol used to communicate with the Destination.	DICOM 3.0
Service Class	The service class provided by the Destination.	Print or Store
Port Number	The port number of the Destination that the MIM uses to make a socket connection for sending and receiving DICOM messages.	0 - 65535
AE Title	The Applications Entity (AE) Title specifies the Destination application that the MIM must communicate with for successful DICOM communications.	1 - 16 alphanumeric characters
Association Retry Counter	Specifies the number of retry attempts in establishing a DICOM association.	1 - 999
Response Message	Specifies the time to wait for a response after a message is sent. Meaningful only when the MIM is functions as a DICOM SCU.	1 - 999 seconds

Table 7–20 Supported Items Parameters - for Print Destinations



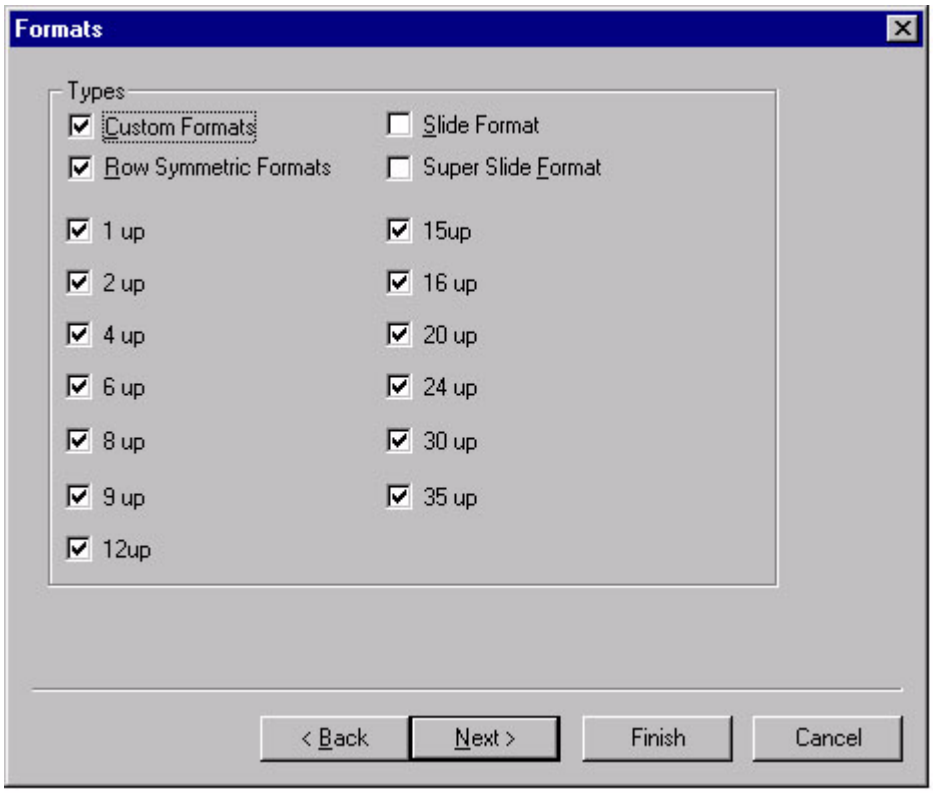
Item	Description	Range
[**Supported Items**]	Select [Supported Items] to display the supported features indicated in this table.	N/A
Collation	Enables “study mode” operation at the KEYPAD and has the Destination print the set of all films that belong to the same study. Select if the destination allows Collation.	Yes, No
Common Text	Allows the user to enter common text information (including the macros for time/date, etc.) at the KEYPAD for printing at the bottom of each film. This parameter will also be used by MIM when validating the format. Select if the destination allows Common text.	Yes, No
Tonescaling on Image Basis	Enables the changing of curve shape in the middle of a page and selecting a curve shape series from the KEYPAD. Select if the destination allows Tonescaling on Image Basis.	Yes, No
Media Bin Default	Enables selecting a default media bin at the KEYPAD when the media size/type is not specified by a DICOM input. Select if the destination allows this feature.	Yes, No
Pivot Density	Enables the selection of a pivot density setting from the KEYPAD. Select if the destination allows pivot density.	Yes, No
Print Quality	Enables the selection of print quality to be used when printing the page from the KEYPAD. Select if the destination allows different printing qualities.	Yes, No
Remote Image Deletion	Enables images to be sent to the destination when they are acquired from the imaging source/ image node. Select if the destination allows remote image deletion.	Yes, No
Rotation	Allows the KEYPAD to prevent the customer from selecting a page orientation of landscape for formats that are normally portrait (and vice versa) from the KEYPAD that is not allowed by the destination. The MIM also uses this to validate the format. Select if the MIM allows page rotation.	Yes, No

Table 7–21 Interpolation Parameters - for Print Destinations



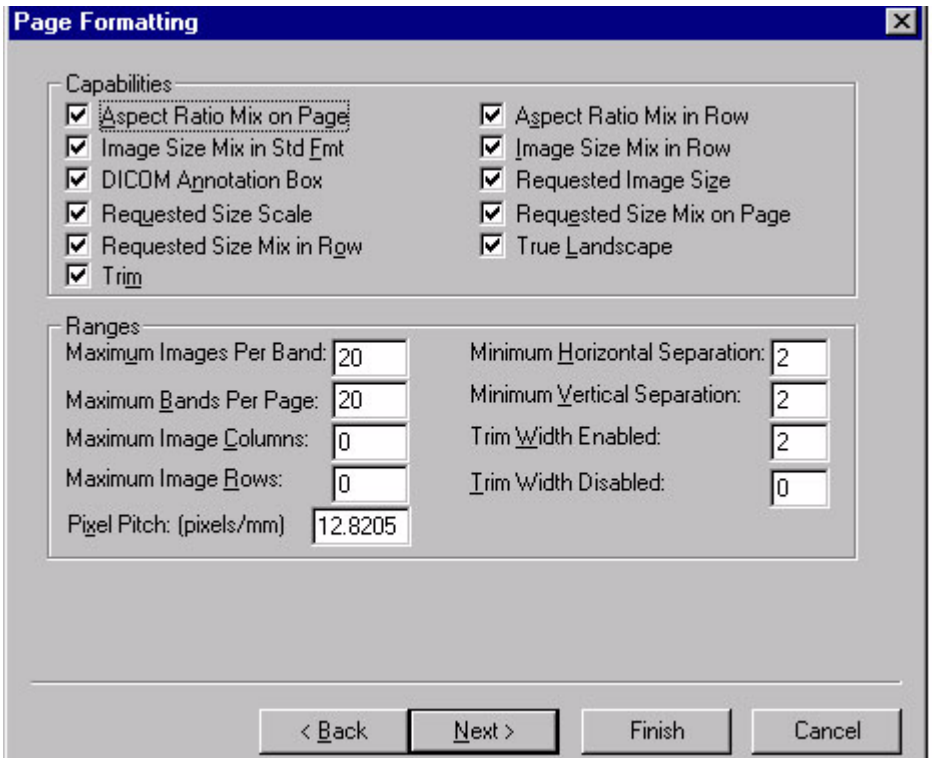
Item	Description	Range
[**Interpolation**]	Select [Interpolation] to display the supported features indicated in this table.	N/A
	Interpolation allows the user to use the KEYPAD or other input to select from a list of interpolation modes.	No Magnification, Bilinear, Replication, Cubic Spline, Cubic Convolution 2, Cubic Convolution 3

Table 7–22 Format Parameters - for Print Destinations



Item	Description	Range
[**Format Types**]	Select [Format Types] to display the information indicated in this table.	N/A
Custom Formats	Custom formats enables the selection of formats 101 and 102 from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Row Symmetric Formats	Enables the user to select formats that only have a line of symmetry in the vertical direction from an Autofilming Link or through a DICOM network. The MIM uses this parameter to validate the format.	Yes, No
Slide Format	Enables the selection of slide format from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Super Slide Format	Enables the selection of super slide format from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Allowable Formats	A list of standard formats that the destination allows. This list can be customized to control what the users see for a specific destination. Each format (1up, 2up, 4up, etc.) has 1 setting.	Yes, No

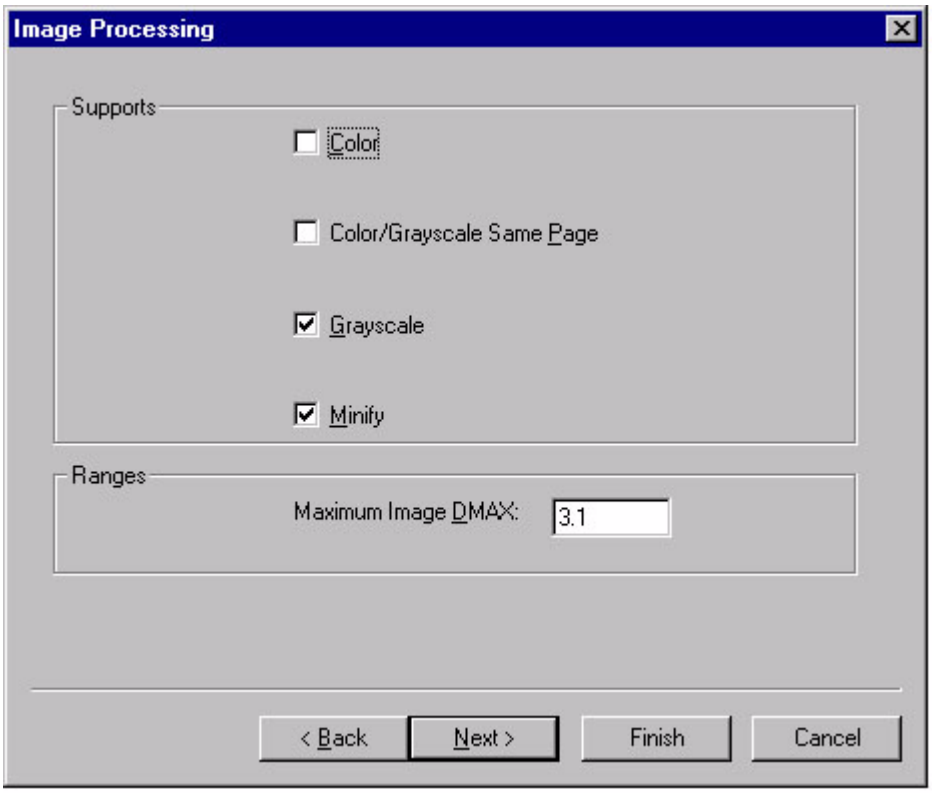
Table 7–23 Page Formatting Parameters - for Print Destinations



Item	Description	Range
[**Formatting Parameters**]	Select [Formatting] to display the Formatting information indicated in this table.	N/A
Aspect Ratio Mix on Page	Mixed aspect ratio on the same page is allowed by the destination. The MIM uses this parameter to validate the format.	Yes, No
Image Size Mix in Std Fmt	Select if the destination allows mixed image size on standard format. This indicates if the image size can be changed on a page with a row/column symmetric format. The images will be scaled differently to print all the images at the same time. The MIM uses this parameter to validate the format.	Yes, No
DICOM Annotation Box	Select if the destination allows page annotation. This indicates if the destination allows the DICOM Annotation Box to be used for selecting the band of text that will be placed on each film. The MIM uses this parameter to validate the format.	Yes, No
Requested Size Scale	Select if the destination should scale the image to fit the image cell area of the destination. The printer places a notice on the output indicating that the operation was done. The MIM uses this parameter to validate the format.	Yes, No
Requested Size Mix in Row	Select if the destination allows all images in a row to be the same size. The MIM uses this parameter to validate the format.	Yes, No
Trim	Select if the destination allows Trim. This allows the user to select a border to around each image from the KEYPAD or from other input devices.	Yes, No
Aspect Ratio Mix in Row	Select if the destination allows mixed aspect ratio in the same row. The MIM uses this parameter to validate the format.	Yes, No
Image Size Mix in Row	Select if the destination allows mixed image sizes in row. Allows the image size to be changed separately of the page format. The MIM uses this parameter to validate the format.	Yes, No
Requested Image Size	Select if the destination allows the user to select an image size. The MIM uses this parameter to validate the format.	Yes, No
Requested Size Mix on Page	Select if the destination allows all images on the page to have the same requested size. The MIM uses this parameter to validate the format.	Yes, No
True Landscape	Select if the destination allows a true landscape orientation.	Yes, No

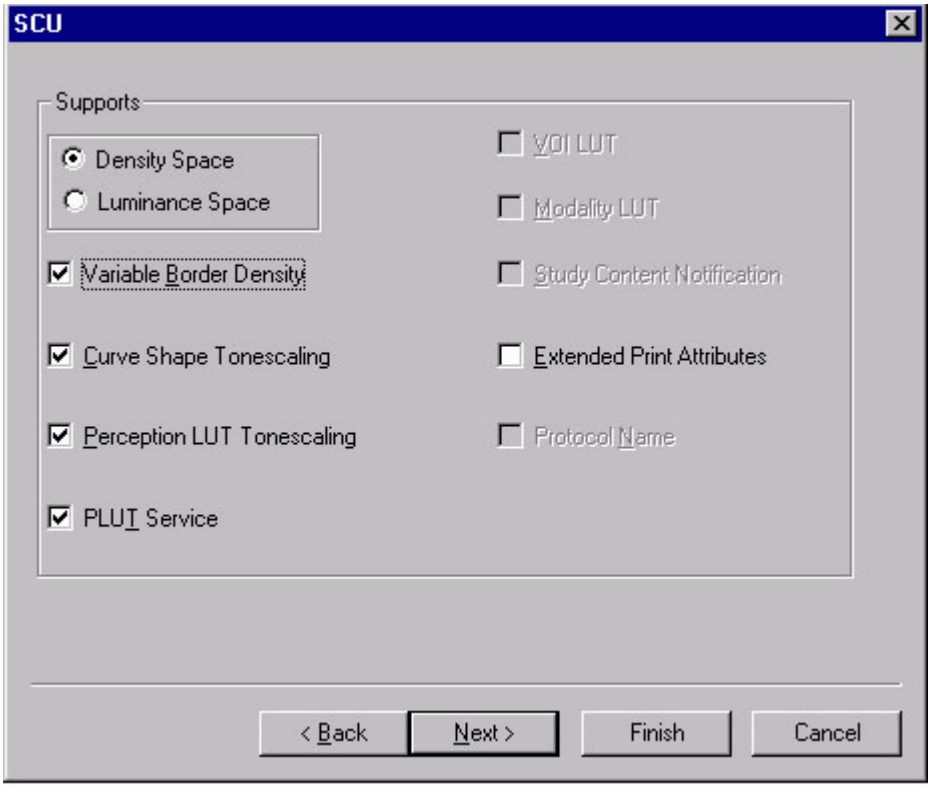
Item	Description	Range
Maximum Images Per Band	Enter the maximum images per band allowed by the destination.	1 - 32
Maximum Bands Per Page	Enter the maximum bands per page allowed by the destination.	1 - 32
Maximum Image Columns	Enter the number of maximum image columns allowed by the destination.	0 - 5000
Maximum Image Rows	Enter the number of maximum image rows allowed by the destination.	0 - 5400
Pixel Pitch	Enter the number of pixels per millimeter for the destination.	0 - 32
Minimum Horizontal Separation	The number of columns that separate images in the horizontal direction.The MIM uses this parameter to validate the format.	0 - 20
Minimum Vertical Separation	The number of rows that separate image bands in the vertical direction. The MIM uses this parameter to validate the format.	0 - 10
Trim Width Enabled	The number of pixels reserved around the border of an image in the x and y direction when trim is on. The MIM uses this parameter to validate the format.	0 - 5
Trim Width Disabled	The number of pixels reserved around the border of an image in the x and y direction when trim is **not** on. The MIM uses this parameter to validate the format.	0 - 5

Table 7–24 Image Processing Parameters - for Print Destinations



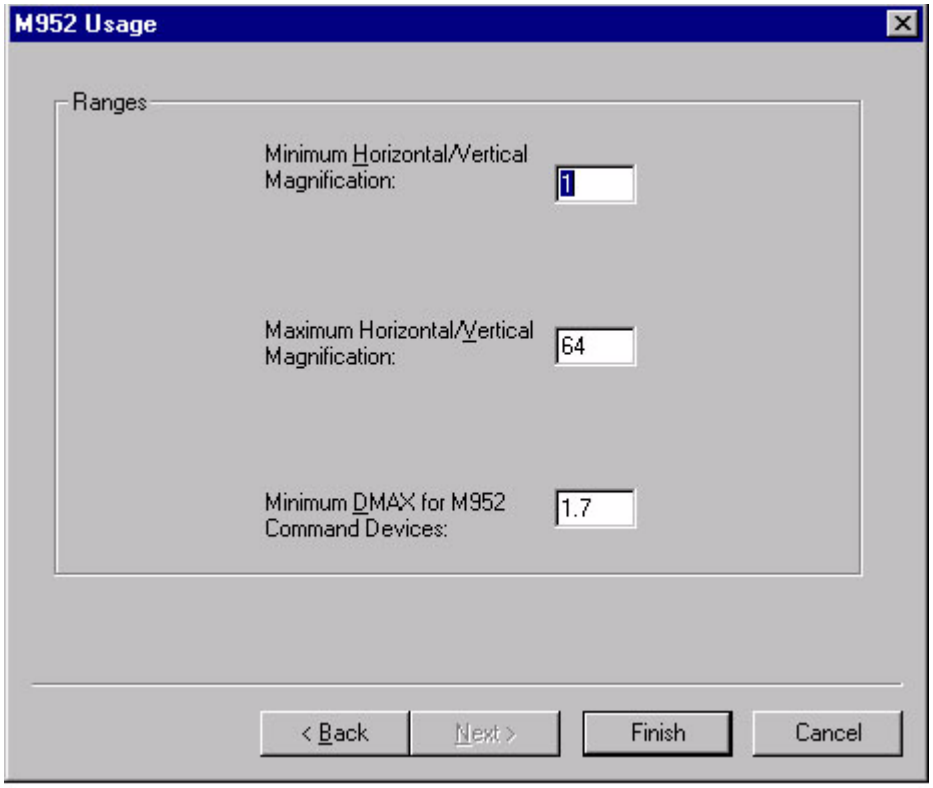
Item	Description	Range
[**Image Processing**]	Select [Image Processing] to display the information indicated in this table.	N/A
Color	Select if the destination allows color images.	Yes, No
Color/Grayscale Same Page	Select if the destination allows the user to place color and grayscale images on the same page.	Yes, No
Edge Enhancement	Allows the user to select edge enhancement parameters (e.g., MODALITY type and image tone adjustment values) from the KEYPAD. Select if the destination allows edge enhancement.	Yes, No
Grayscale	Select if the destination allows grayscale images.	Yes, No
Minify	Formerly Decimation. Indicates that the destination can accept images with dimensions larger than the dimensions of the image cell where the image will be printed. Select if the destination allows Minify.	Yes, No
Maximum Image DMAX	Enter the maximum image DMAX value that is allowed by the destination.	0.0 - 3.8

Table 7–25 SCU Parameters - for Print Destinations



Item	Description	Range
Density Space	Density space allowed by the destination. Determines if the MIM can send images using density space (code value 0 represents white and code value 255 represents black). In DICOM, density space is represented in the photometric interpretation attribute of the Image SOP as “monochrome 1.”	Yes, No
Luminance Space	Luminance space allowed by the destination. Determines if the MIM can send images using luminance space (code value 0 represents black and code value 255 represents white). In DICOM, luminance space is represented in the photometric interpretation attribute of the Image SOP as “monochrome 2.”	Yes, No
Variable Border Density	Indicates whether the destination allows the user to select a border density between black and clear. The parameter has no meaning for store destinations.	Yes, No
Curve Shape Tonescaling	Specifies whether the destination allows Curve Shape Tonescaling with Curve shape and contrast. Determines if the MIM will send Curve Shape Tonescaling parameters when the destination does not support negotiation of PLUTs. Has no meaning for store destinations.	Yes, No
Perception LUT Tonescaling	Specifies whether the destination allows Perception LUT Tonescaling with TFT set and contrast setting. Determines if the MIM will send Perception LUT Tonescaling parameters when the destination does not support negotiation of PLUTs. Has no meaning for store destinations.	Yes, No
PLUT Service	Specifies whether the destination allows Presentation Lookup Tables (PLUTs). PLUTs are used to standardize “tonescaling” information for the same image on any type of PRINTER. Information in PLUT includes curve shape, contrast, pivot density, TFT set, DMIN, DMAX, and border DMAX. Parameter has no meaning for store destinations.	Yes, No
Extended Print Attributes	These attributes (MODALITY, body part, and image tone adjustment) can be used by some destinations to enhance image quality. The parameter attributes are automatically sent to the store destination.	Yes, No.

Table 7–26 M952 Usage Parameters - for Print Destinations



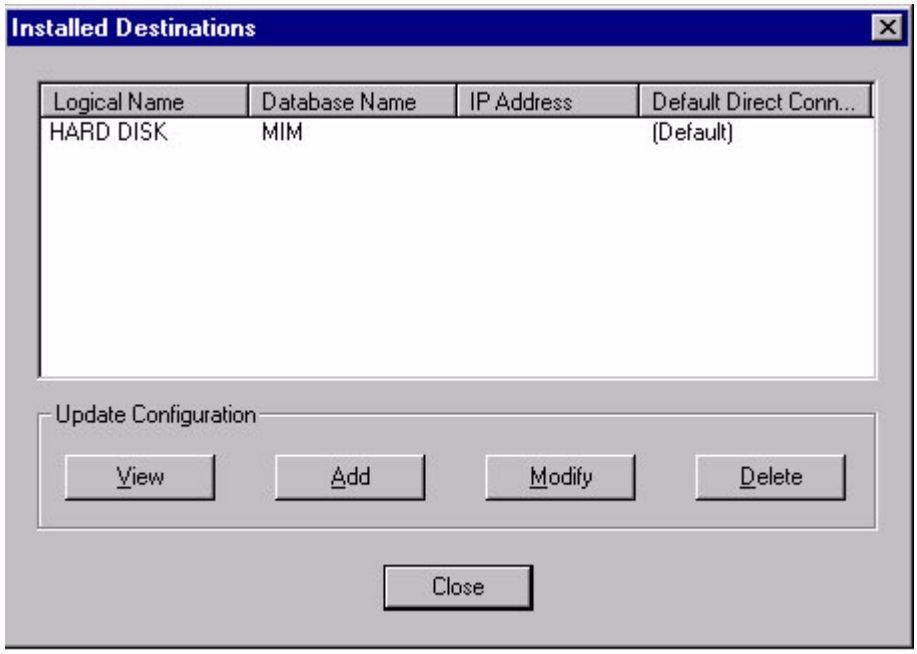
Item	Description	Range
[**M952**]	Select [M952] to display the information indicated in this table.	N/A
Minimum Horizontal/Vertical Magnification	Enter the minimum Horizontal and Vertical Magnification value that is allowed by the destination. This parameter does not apply to store destinations.	0 - 64
Maximum Horizontal/Vertical Magnification	Enter the maximum Horizontal and Vertical Magnification value that is allowed by the destination. This parameter does not apply to store destinations.	0 - 64
Minimum DMAX for M952 Command Devices	Enter the minimum DMAX value that is allowed by the destination when mapping to click counts.	1.5 - 2.0

Setting Up a Network Store Destination

Important

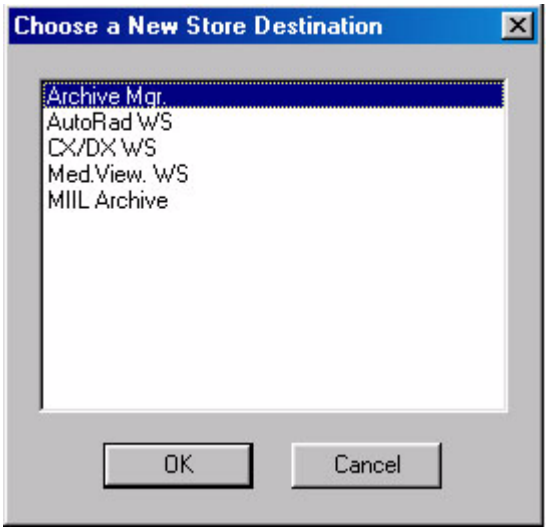
- Before you enter the Storage Destination Parameters, verify the information at the Destination.
- If this is the first Storage Destination, see “Enabling Software Licenses” in Section 4.
- In the “Destination Parameters” window, press [Tab] on the LAPTOP COMPUTER to advance to the next field.

[1] At the “MIM Service Application” window, select **Configure>Destination**.

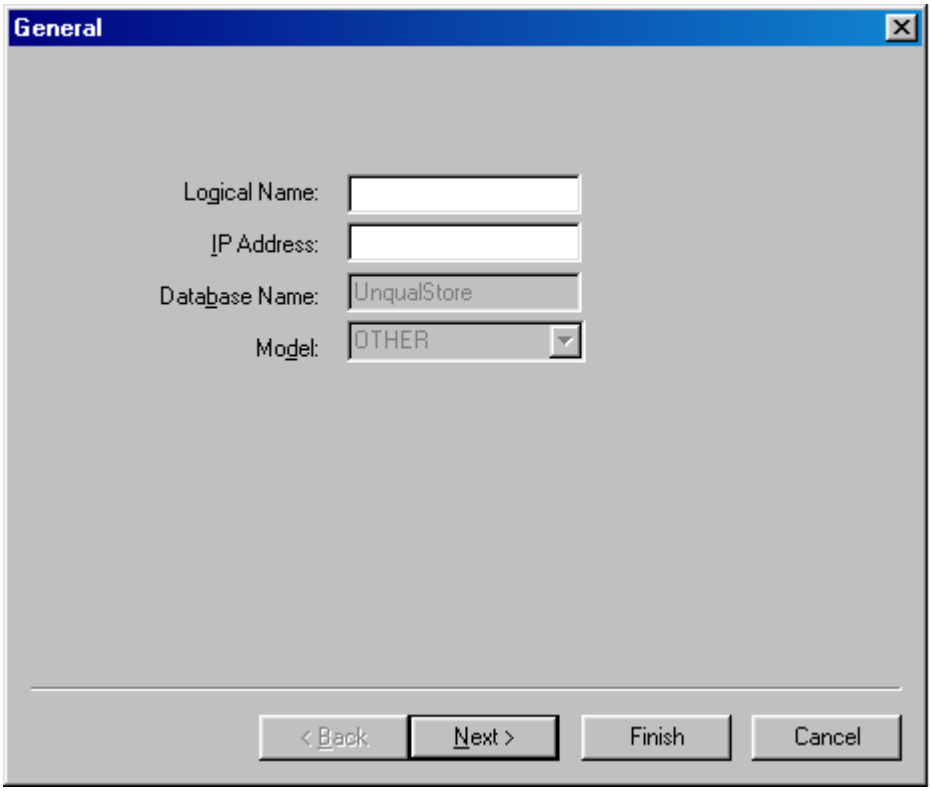


[2] At the “Installed Destinations” window, select:

- [Add]
- [Store]
- [Qualified] or [Unqualified]



[3] Select the store destination and click [OK].

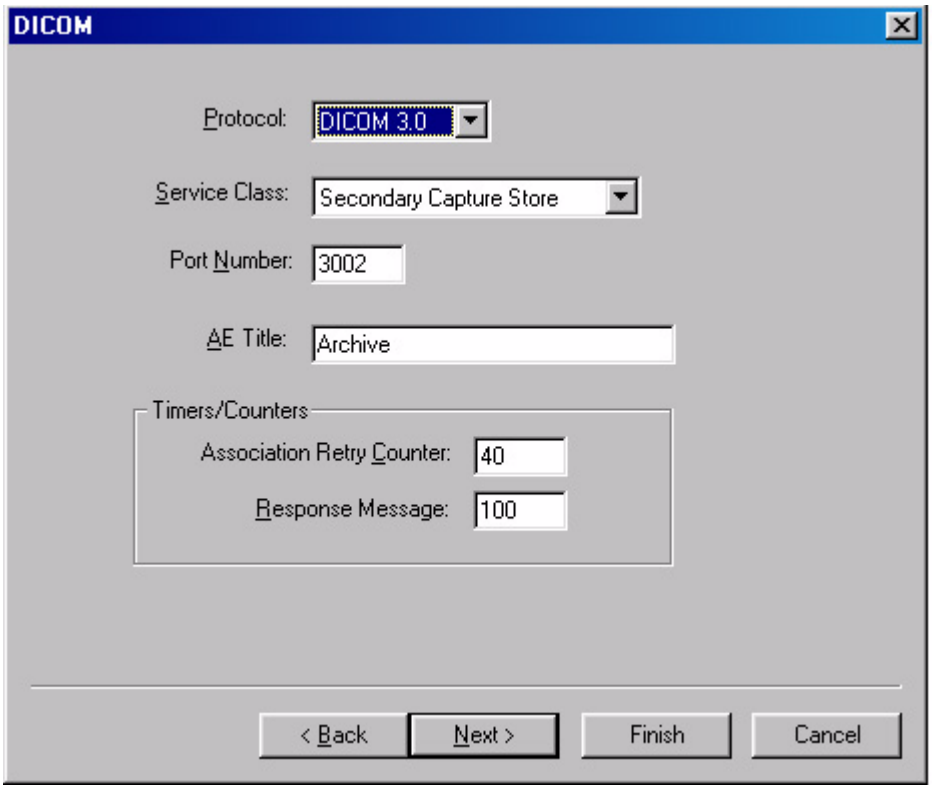


[4] At the "General" parameters window, enter the following parameters. See Table 7-27.

(a) "Logical Name"

(b) "IP Address"

[5] Click [Next].



[6] In the “DICOM” window, enter the required information (see Table 7-27).

[7] Click [Finish]. This will select default values for the following groups of parameters:

- Supported Items
- Formats
- Page Formatting
- SCU

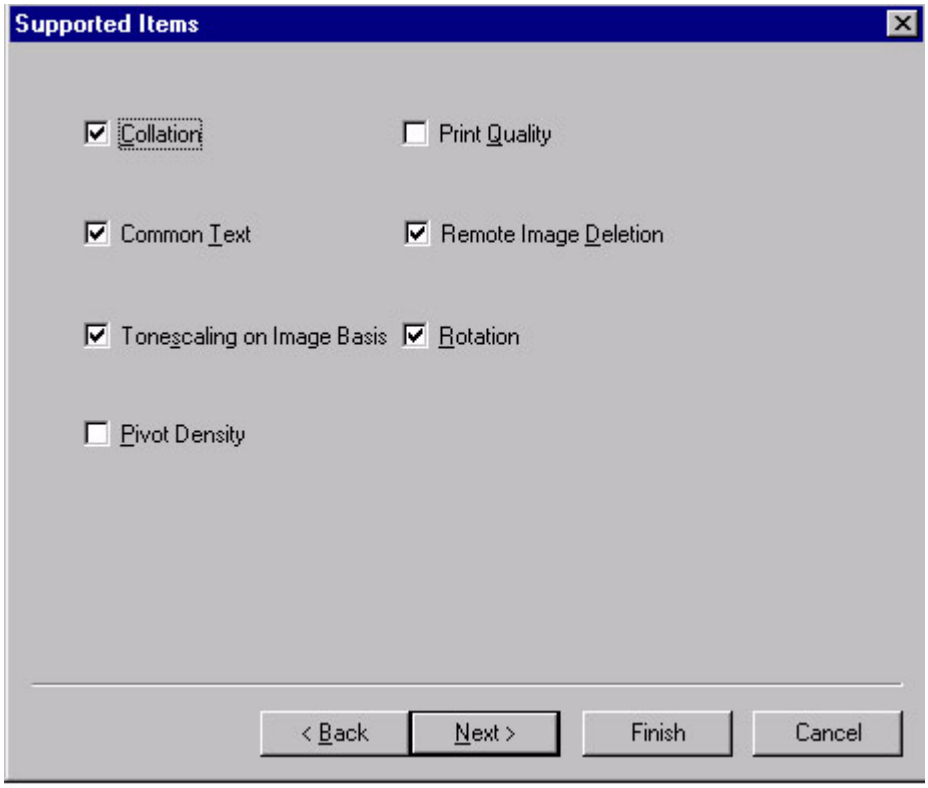
Note

Descriptions of the parameters in these groups is provided in Table 7–28 through Table 7–31.

Table 7–27 Destination Parameters: Names, Addresses and DICOM Information

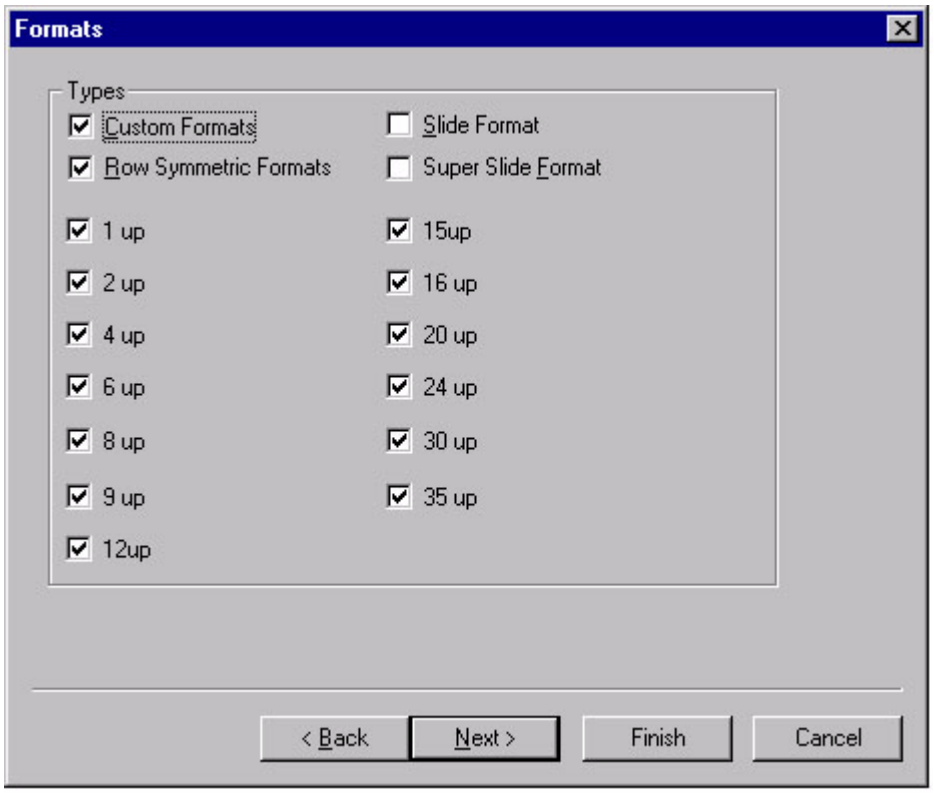
Item	Description	Range
Logical Name	Site-specific name that you must enter for a particular Destination. The KEYPAD displays this name when the operator selects a Destination. The MIM requires a unique “Logical Name.” The “Logical Name” of the DICOM PRINT SERVER is the “AE Title”.	1 - 9 alphanumeric characters No spaces allowed. Underscores are allowed.
IP Address	Site-specific address that identifies the Destination on the network. The Service Application for the MIM requires the user to enter a value. Two or more Destinations must not have the same IP Address.	4 fields of 1 - 254 where each field is separated by a period. For example: 149.110.98.10
Database Name	The name of the Destination selected from the Destination database. This is a “view only” field.	1 - 13 alphanumeric characters
Model	The model of the Destination. The MIM uses this data to optimize the page format validation for the particular Destination. This is a “view only” field.	MEDICAL VIEWING STATION (MVS), MEDICAL IMAGE AND INFORMATION LIBRARY (MIIL)
Memory	The amount of memory in megabytes residing in the Destination. The MIM uses this value to validate the format. This value is site-specific. The Service Application for the MIM requires that the user enter a value in this field.	1 - 99
[**DICOM Info**]	Select [DICOM Info] to display the DICOM information indicated in this table.	N/A
Protocol	Protocol used to communicate with the Destination.	DICOM 3.0
Service Class	The service class provided by the Destination.	Store
Port Number	The port number of the Destination that the MIM uses to make a socket connection for sending and receiving DICOM messages.	0 - 65535; default 104
AE Title	The Applications Entity (AE) Title specifies the Destination application that the MIM must communicate with for successful DICOM communications. The field width for this parameter is 1 - 16 alphanumeric characters.	1 - 16 alphanumeric characters
Timers/Counters]	This feature is used for DICOM communication, and is configurable per site. It specifies the number of retries per message and the amount of time to wait for a response after sending a message.	

Table 7–28 Supported Items Parameters - for Store Destinations



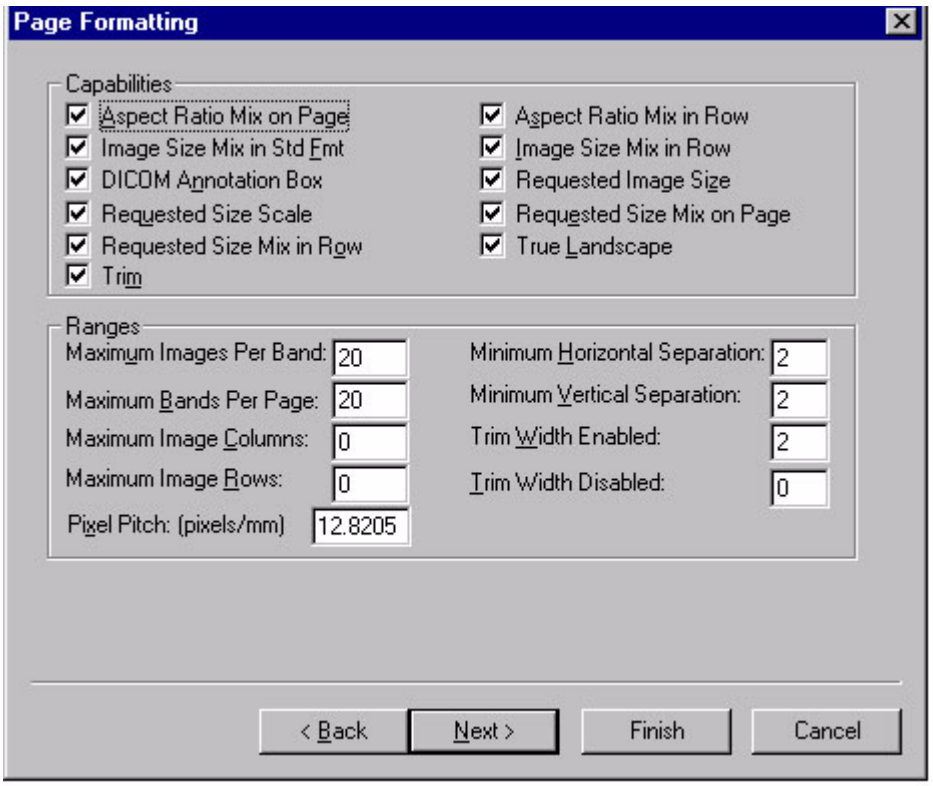
Item	Description	Range
[**Supported Items**]	Select [Supported Items] to display the supported features indicated in this table.	N/A
Collation	Enables “study mode” operation at the KEYPAD and has the Destination print the set of all films that belong to the same study. Select if the destination allows Collation.	Yes, No
Common Text	Enables the user to enter common text information (including the macros for time/date, etc.) at the KEYPAD for printing at the bottom of each film. The MIM uses this parameter to validate the format. Select if the destination allows Common text.	Yes, No
Tonescaling on Image Basis	Enables the user to change the curve shape in the middle of a page and select a curve shape series from the KEYPAD. Select if the destination allows Tonescaling on Image Basis.	Yes, No
Media Bin Default	Selects a default media bin at the KEYPAD when the media size/type is not selected by a DICOM input. Select if the destination allows this feature.	Yes, No
Pivot Density	Selects a pivot density setting from the KEYPAD. Select if the destination allows pivot density.	Yes, No
Print Quality	Selects the print quality to be used when printing the page from the KEYPAD. Select if the destination allows different printing qualities.	Yes, No
Remote Image Deletion	Sends images to the destination as soon as they are acquired from the imaging source/image node. Select if the destination allows remote image deletion.	Yes, No
Rotation	Prevents the customer from selecting a landscape page for formats that are normally portrait (and vice versa) from the KEYPAD that the destination does not allow. The MIM uses this to validate the format. Select if the MIM allows page rotation.	Yes, No

Table 7–29 Format Parameters - for Store Destinations



Item	Description	Range
[**Format Types**]	Select [Format Types] to display the information indicated in this table.	N/A
Custom Formats	Custom formats enables the selection of formats 101 and 102 from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Row Symmetric Formats	Allows the user to select formats that only have a line of symmetry in the vertical direction from an Autofilming Link or through a DICOM network. The MIM uses this parameter to validate the format.	Yes, No
Slide Format	Enables the selection of slide format from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Super Slide Format	Enables the selection of super slide format from the KEYPAD or from other inputs. The MIM uses this parameter to validate the format.	Yes, No
Allowable Formats	A list of formats that the destination allows. This list can be customized to control what the users see for a specific destination. Each format (1up, 2up, 4up, etc.) has 1 setting.	Yes, No

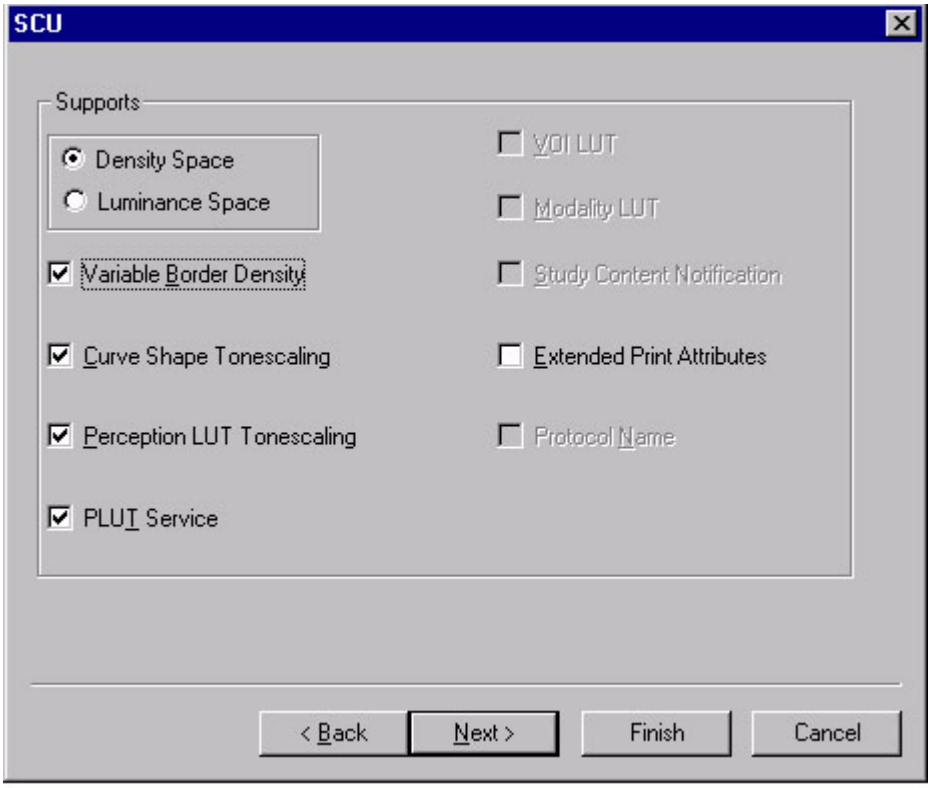
Table 7–30 Page Formatting Parameters - for Store Destinations



Item	Description	Range
[**Formatting Parameters**]	Select [Formatting] to display the Formatting information indicated in this table.	N/A
Aspect Ratio Mix on Page	Mixed aspect ratio on the same page is allowed by the destination. The MIM uses this parameter to validate the format.	Yes, No
Image Size Mix in Std Fmt	Select if the destination allows mixed image size on a standard format. This indicates if the image size can be changed on a page with a row/column symmetric format. The images will be scaled differently to print all the images at the same time. The MIM uses this parameter to validate the format.	Yes, No
DICOM Annotation Box	Select if the destination allows page annotation. This indicates if the destination allows the DICOM Annotation Box for selecting the band of text that will be placed on each film. The MIM uses this parameter to validate the format.	Yes, No
Requested Size Scale	Select if the destination allows the user to request an image to fit the image cell allowed by the destination. The size of the image should be scaled to match the available image cell area. The printer places a notice on the output indicating that the operation was done. The MIM uses this parameter to validate the format.	Yes, No
Requested Size Mix in Row	Select if the destination allows all images of the same size in a row. The MIM uses this parameter to validate the format.	Yes, No
Trim	Select if the destination allows Trim. This allows the user to select a border around each image from the KEYPAD or from other input devices.	Yes, No
Aspect Ratio Mix in Row	Mixed aspect ratio in the same row allowed by the destination. The MIM uses this parameter to validate the format.	Yes, No
Image Size Mix in Row	Select if the destination allows mixed image size in row. This indicates if the image size can be changed in a row independent of the page format. The MIM uses this parameter to validate the format.	Yes, No
Requested Image Size	Select if the destination can print images at a specific size. The MIM uses this parameter to validate the format.	Yes, No

Item	Description	Range
Requested Size Mix on Page	Select if the destination allows the same size for all images on the page. The MIM uses this parameter to validate the format.	Yes, No
True Landscape	Select if the destination allows a true landscape orientation.	Yes, No
Maximum Images Per Band	Enter the maximum images per band allowed by the destination.	1 - 32
Maximum Bands Per Page	Enter the maximum bands per page allowed by the destination.	1 - 32
Maximum Image Columns	Enter the number of maximum image columns allowed by the destination.	0 - 5000
Maximum Image Rows	Enter the number of maximum image rows allowed by the destination.	0 - 5400
Pixel Pitch	Enter the number of pixels per millimeter for the destination.	0 - 32
Minimum Horizontal Separation	The number of columns that separate images in the horizontal direction. The MIM uses this parameter to validate the format.	0 - 20
Minimum Vertical Separation	The number of rows that separate image bands in the vertical direction. The MIM uses this parameter to validate the format.	0 - 10
Trim Width Enabled	The number of pixels reserved around the border of an image in the x and y direction when trim is on. The MIM uses this parameter to validate the format.	0 - 5
Trim Width Disabled	The number of pixels reserved around the border of an image in the x and y direction when trim is **not** on. The MIM uses this parameter to validate the format.	0 - 5

Table 7–31 SCU Parameters - for Store Destinations



Item	Description	Range
Density Space	Density space allowed by destination. Determines if the MIM can send images using density space (code value 0 is white, and code value 255 is black). In DICOM networks, density space is indicated in the photometric interpretation attribute of the Image SOP as “monochrome 1.”	Yes, No
Luminance Space	Luminance space allowed by destination. Determines if the MIM can send images using luminance space (code value 0 is black and code value 255 is white). In DICOM, luminance space is indicated in the photometric interpretation attribute of the Image SOP as “monochrome 2.”	Yes, No
Variable Border Density	Indicates whether the destination allows the user to select a border density between black and clear. The parameter has no meaning for store destinations.	Yes, No
Curve Shape Tonescaling	Specifies whether the destination allows Curve Shape Tonescaling with Curve shape and contrast. Determines if the MIM will send Curve Shape Tonescaling parameters when the destination does not support negotiation of PLUTs. Has no meaning for store destinations.	Yes, No
Perception LUT Tonescaling	Specifies whether the destination allows Perception LUT Tonescaling with TFT set and contrast setting. Determines if the MIM will send Perception LUT Tonescaling parameters when the destination does not support negotiation of PLUTs. Has no meaning for store destinations.	Yes, No
PLUT Service	Specifies whether the destination allows Presentation Lookup Tables (PLUTs). PLUTs are used to standardize “tonescaling” information for the same image from any type of PRINTER. Information in PLUT includes curve shape, contrast, pivot density, TFT set, DMIN, DMAX, and border DMAX. Parameter has no meaning for store destinations.	Yes, No
Extended Print Attributes	These attributes (MODALITY type, body part, and image tone adjustment) can be used by some destinations to enhance image quality. The parameter attributes are automatically sent to the store destination.	Yes, No.

Setting Up the MODALITY SERVER for a HIS/RIS GATEWAY

Setting Up an HIS/RIS Gateway for a MIM with TOUCHSCREEN KEYPAD

Important

Each input channel must be set up. To set up the MODALITY information the first time, do **all** remaining steps. If the MODALITY information has previously been set up, advance to Step 3.

[1] At the "MIM Service Application" window, select **Configure>Input>Direct Connect**.

[2] At the "Configuration" window, select **Modality Info>Modify**.

[3] At the prompt "Are you sure?," click [OK]. The LAPTOP COMPUTER displays the "Modality Info."

[4] At the "Type" line, select the Down Arrow and highlight a MODALITY from the list.

Note

The "Type" parameter enables "preferences" and "tonescaling" on some WORKSTATIONS. "Type" sets up an algorithm for the MODALITY (e.g., MR for Magnetic Resonance). The other fields can be any information that is meaningful to you and the site. Once set up, the information for the MODALITY will be used for HIS/RIS and storage class destinations.

[5] Enter any additional information in other fields.

[6] At the "Modality Info" screen, click [OK].

[7] At the "Configuration" window, click [Close].

Note

Check the Storage Destination connection by executing a ping. If the ping does not work, you will have to set up the destination or troubleshoot the problem.

[8] At the "MIM Service Application" window, select **Diagnostics>Network**.

[9] At the "Network Diagnostics" window, press [Run].

[10] At the "Input IP Address" window, enter the "IP Address" of the storage device.

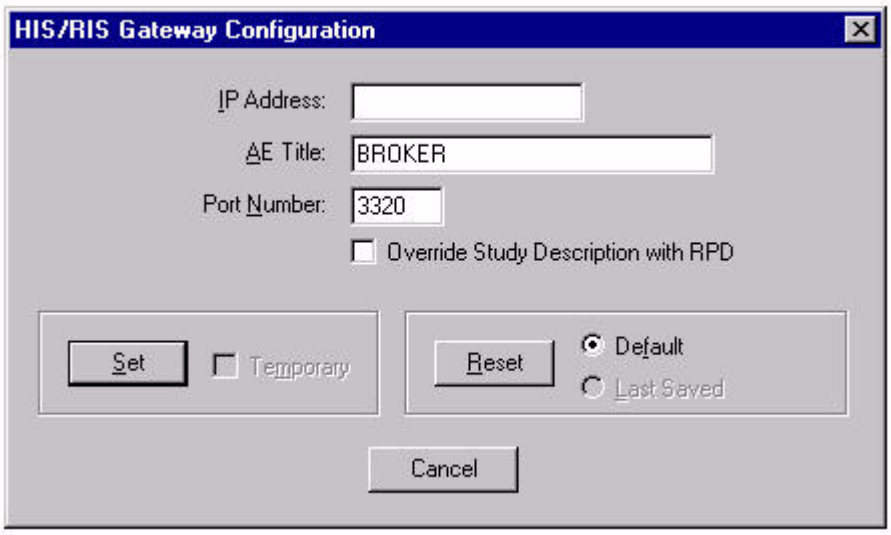
[11] Click [OK].

[12] At the "Network Diagnostics" window, press [Cancel].

[13] At the "MIM Service Application" window, select **Configure>HIS/RIS Gateway**.

Important

- You must set up the HIS/RIS Gateway at the KEYPAD for the MIM to successfully query the "Patient Worklist." See Section 13 for instructions for setting up a "*Mitra* PACS Broker" to send Event Notifications to the MIM.
- When the KEYPAD on the MIM displays either "Study Info" or the "Patient List" screen, the application software for the MIM queries the HIS/RIS GATEWAY every 2 minutes and updates the new information on the "Patient List" screen.
- The KEYPAD displays records in the "Patient List" for a configurable time.



[14] At "HIS/RIS Gateway Configuration," enter the correct values:

Parameter	Description	*Mitra* GATEWAY
IP address	Site specific	Site specific
AE Title	The Application Entity (AE) Title of the HIS/RIS Gateway	BROKER
Port Number	The DICOM communication port	3320
Override Study Description with RPD	Determines whether the MIM will query the HIS/RIS BROKER by the study description (default) or the requested procedure description. The MIM will display the requested procedure description (RPD) in the study description field when this option is selected.	On, off
Scheduled Procedure Start Time	Disabling causes the MIM not to request the scheduled procedure start time on a query.	On, Off
Support Study Description	Disabling causes the MIM not to query the Broker for Study Description.	On, Off

[15] Press [Set].

Adding the “Station Name” at the KEYPAD

[1] Using the TOUCHSCREEN KEYPAD, press:

(a) [Main Menu]

(b) [Service]

(c) [More Options]

(d) [HIS/RIS Configuration]

(e) [Add Station Name]

[2] Using either the KEYPAD or the MINI-KEYBOARD, type the name of the station and then press [Enter].

[3] Press [Return].

[4] Press [Polling Interval].

[5] Type in the interval (in minutes) at which the MIM will poll the Broker for Patient List updates and press [Enter].

[6] Press [Retention Period].

[7] Type in the length of time (in hours) that items will remain in the patient list before deleting and press [Enter].

[8] Press [Return] 2 times.

[9] Press [Acquisition].

Checking the HIS/RIS Connection

Important

If the HIS/RIS connection is not functioning, an error message “WORKLIST CONN. TIMEOUT” displays on the “Study Info” MIM KEYPAD screen. See “Troubleshooting the HIS/RIS Gateway Connection.”

[1] At the “Main Menu” screen on the KEYPAD, press [Acquisition] and then [Study Info].

[2] At the “Study Info” screen, press [Patient List].

[3] Check that the Hospital Administrator makes correct entries for today’s date.

Note

If patient information exists, it appears in the “Patient Info” field.

Troubleshooting the HIS/RIS Gateway Connection

[1] Use the “MIM Service Application” to “ping” the IP Address of the HIS/RIS GATEWAY.

[2] Check that the Station Name is entered correctly. The Station Name is used by the MIM to query the HIS/RIS GATEWAY for Patient Worklist Records.

[3] Check that the Hospital Administrator correctly enters the Patient Records at the HIS/RIS GATEWAY for today’s date.

Disabling the HIS/RIS GATEWAY

Note

This procedure allows you to use “Study Info” or “Patient List” screen on the KEYPAD to stop querying the HIS/RIS Gateway every 2 minutes.

[1] At the “MIM Service Application” window, select **Configure>HIS/RIS Gateway**.

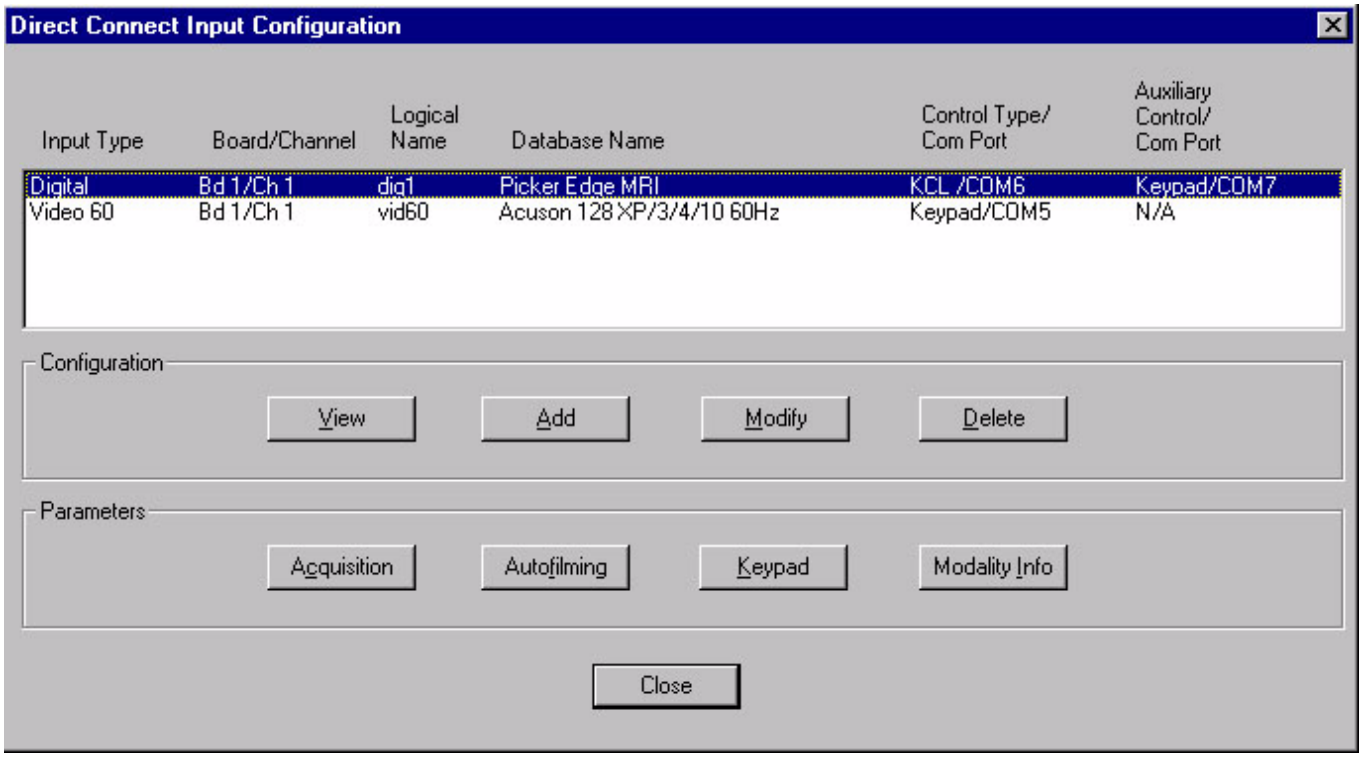
[2] Press [Reset]. The IP Address is cleared.

Setting Up the MODALITY SERVER for the BAR CODE READER Option

Setting up the BAR CODE READER

The BAR CODE READER supports the bar code standard 39 used by most HIS/RIS systems and full ASCII decode. The BAR CODE READER can be configured to work with or without a HIS/RIS system to reduce or eliminate the user entry of patient demographics at the TOUCHSCREEN KEYPAD or KEYBOARD.

[1]At the "MIM Service Application" window, select **Configure>Input>Direct Connect**.

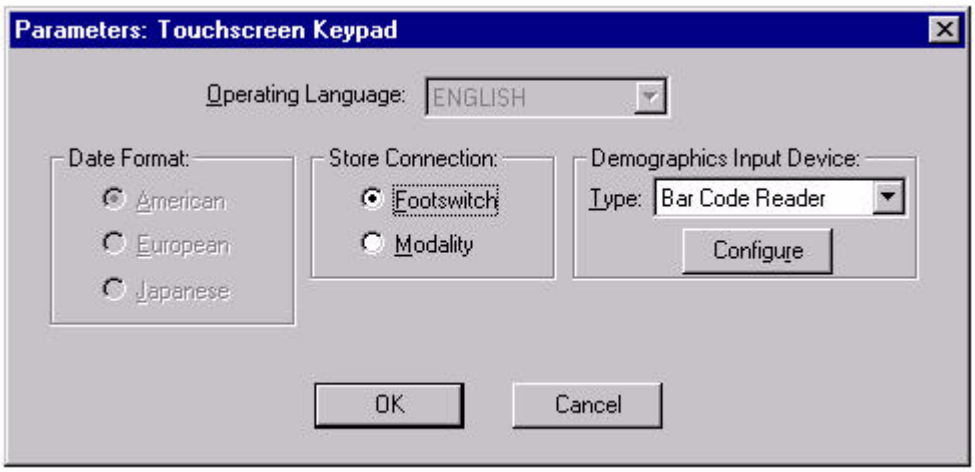


Note

Changing parameters in the following procedure will take the system off-line.

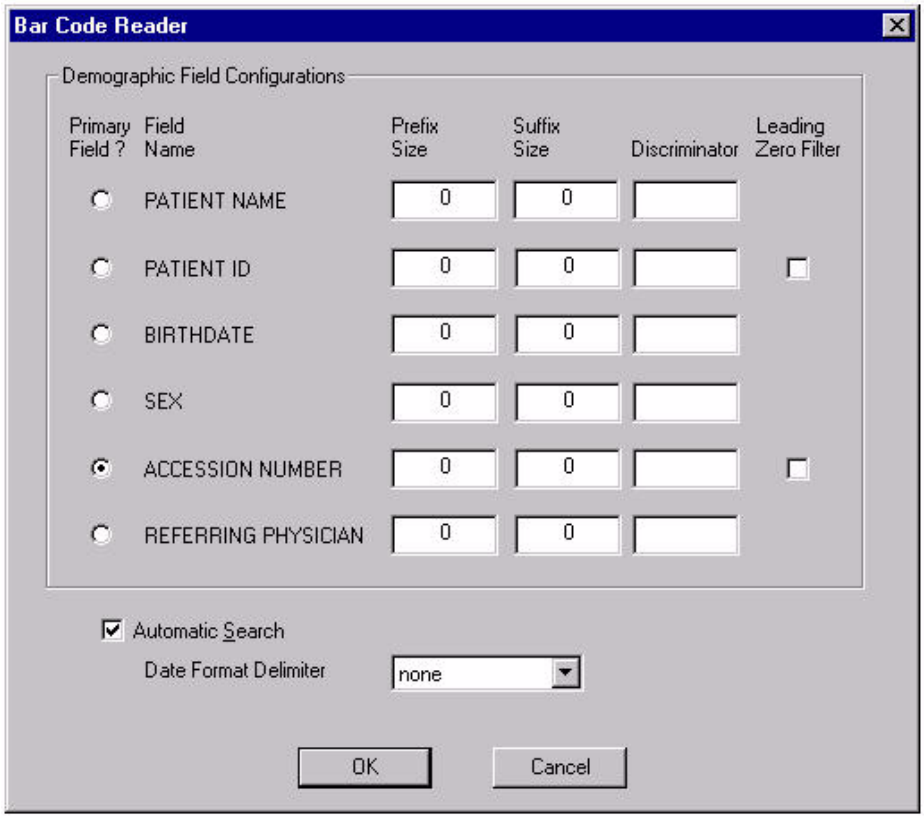
[2]To display the "Parameters: Touchscreen Keypad" window, click:

- [Keypad]
- [Modify]
- [OK]



[3]At "Demographic Input Device", select Bar Code Reader.

[4]Click [Configure].



[5]Based on the customer needs, select the primary field that matches the BAR CODE LABEL at the site. Enter prefix and/or suffix sizes, discriminators, and/or leading zero filter as needed:

Parameter	Description	Range
Primary Field	The demographic field that is used to search the patient list for a matching record. This is also the field that receives scanned data when: • no discriminator is found. • the scan was done while in the Acquisition screen. • no field is currently selected on the "Study Info" screen.	PATIENT NAME PATIENT ID BIRTHDATE SEX ACCESSION NUMBER REFERRING PHYSICIAN
Prefix Size	A prefix filter size for each demographic field. Specifies the number of characters to remove from the front of the received data.	0 to N
Suffix Size	A suffix filter size for each demographic field. Specifies the number of characters to remove from the end of the received data.	0 to N
Discriminator	Discriminators are characters that you can associate with each piece of patient information (patient name, patient ID, etc.) to tell the BAR CODE READER which type of information you have scanned. To use discriminators, you must have a symbol(s) or a special character as part of the patient information. You configure the MIM to read and understand the symbol(s) or special characters when scanned with the BAR CODE READER. For example, if you associate the character "%" with patient names, the customer can scan the BAR CODE LABEL with the patient name, and the name automatically populates the Patient Name field. Using discriminators eliminates the need for the customer to highlight the appropriate field before they scan the LABEL.	1 or more characters from the ASCII character set.
Leading Zero Filter Patient ID Accession Number	A leading zero filter switch from Patient ID and Accession Number. Specifies whether or not to remove leading zeros from the data scanned.	On, off
Automatic Search	**Enable Automatic Search**. A switch for automatic search on the primary demographic field. Enables the automatic search of the local patient list when any bar code data is received for the Primary Field.	Recommend OFF without HIS/RIS and ON with HIS/RIS
Date Format Delimiter	The delimiter for date of birth demographic field. Allows variable length day, month, and year. **Note** The birthdate format is determined by the region of the selected language: • US: mmddyy • Europe: ddmmyy • Asia: yymmdd	None (mmddyy) backslash "/" (mm/dd/yy) hyphen "-" (mm-dd-yy) underscore "_" (mm_dd_yy) period "." (mm.dd.yy)

[6]Click "Automatic Search" to enable.

[7]To exit, click:

- [OK]
- [OK]
- [Close]

Using the BAR CODE READER with HIS/RIS

[1]At any screen, scan the BAR CODE LABEL. You receive 1 of the following messages:

•1 record found on the local MIM database.

The patient is updated with all the study information. The information is displayed after “NAME:” above “Study Info”. The record received from the HIS/RIS cannot be edited.

•No matching records were found.

The study information you scanned will be entered, and all additional fields will be blank. You must select [Study Info] to enter all missing information.

•More than 1 record is found.

The user must select [Study Info], and then select [Patient List] to select the correct record.

[2]To check initial operation, select [Study Info], and verify:

a.Correct Information was placed in the Primary Field.

b.Correct information is present.

Using the BAR CODE READER without HIS/RIS

Important

- Before you scan the LABEL, you must highlight the correct field on the “Study Info” screen. When you scan the LABEL, the information is placed in the field you have highlighted. If the site is configured with discriminators, the information will be placed in the field according to the site setup.
- You can only retrieve 1 piece of information from each BAR CODE LABEL, for example, Patient Name or Patient ID.

[1]At any screen, scan the BAR CODE LABEL.

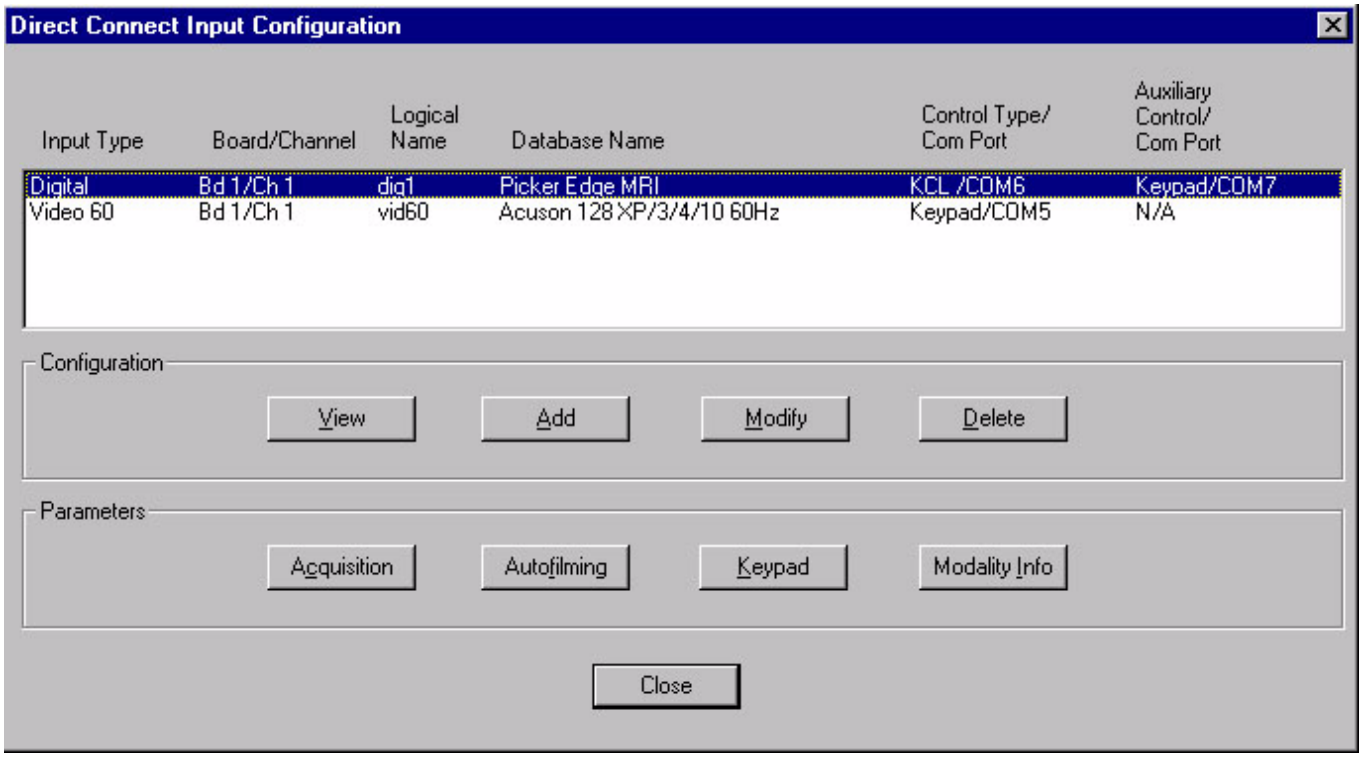
[2]From the “Study Info” field, you can view, edit, or delete the information as necessary.

[3]Complete the 5 required demographic fields.

Setting Up the MODALITY SERVER for the MODALITY Store Option

A MODALITY can be set up to store from the TOUCHSCREEN KEYPAD by connecting a cable from the KEYPAD to a switch on the MODALITY. The MODALITY must have a switch available for this purpose. See "Connecting the KEYPAD to the MODALITY" in Section 3. If the KEYPAD has been connected to the MODALITY, do the following procedure:

[1] At the "MIM Service Application" window, select **Configure>Input>Direct Connect**.



Note

Changing parameters in the following procedure will take the system off line.

[2] To display the "Parameters: Touchscreen Keypad" window, click:

- [Keypad]
- [Modify]
- [OK]

[3] In the "Store Connection" panel, select "Modality."

[4] Click [OK].

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Section 8: Obtaining Optimum Images

Introduction

This section includes procedures for obtaining optimum images after initial configuration of the MIM. The procedures apply to images sent to the:

- *Kodak Ektascan* 1120 LASER PRINTER
- *Kodak Ektascan* 2180 LASER PRINTER
- *Kodak Ektascan* 160 LASER IMAGER
- *Kodak DryView* 8100 LASER IMAGER
- *Kodak DryView* 8200 LASER IMAGER
- *Kodak DryView* 8300 LASER IMAGER
- *Kodak DryView* 8500 LASER IMAGER / PLUS
- *Kodak DryView* 8500 LASER IMAGER / STANDARD
- *Kodak DryView* 8600 LASER IMAGER
- *Kodak DryView* 8610 LASER IMAGER
- *Kodak DryView* 8700 LASER IMAGER / PLUS
- *Kodak DryView* 8700 LASER IMAGER / STANDARD
- *Kodak DryView* 8800 MULTI-INPUT MANAGER
- *Kodak DryView* 969 HQ LASER IMAGER
- *Kodak DryView* 969 HQT LASER IMAGER

The procedures in this section include:

- ❒ Creating optimum images for an SCP. Either the “MIM Service Application” or the DISPLAY KEYPAD is used for this procedure.
- ❒ Creating optimum images for an SCU. Either the TOUCHSCREEN KEYPAD or the PRINT KEYPAD is used for this procedure.

Note

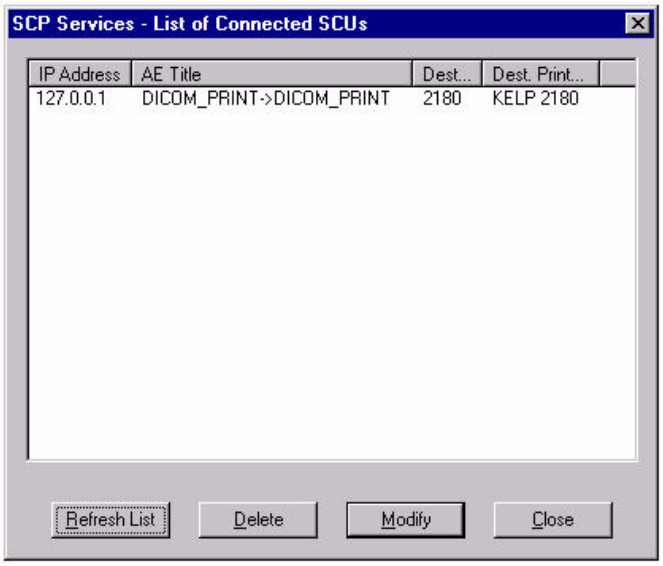
Information on Transfer Function Tables (TFTs) and User Lookup Tables (ULUTs) is provided at the end of this section.

Using the “MIM Service Application” to Create Optimum Images for the SCP

This procedure sets up SCP image processing defaults for all MODALITIES that sends images to a PRINTER through the MIM.

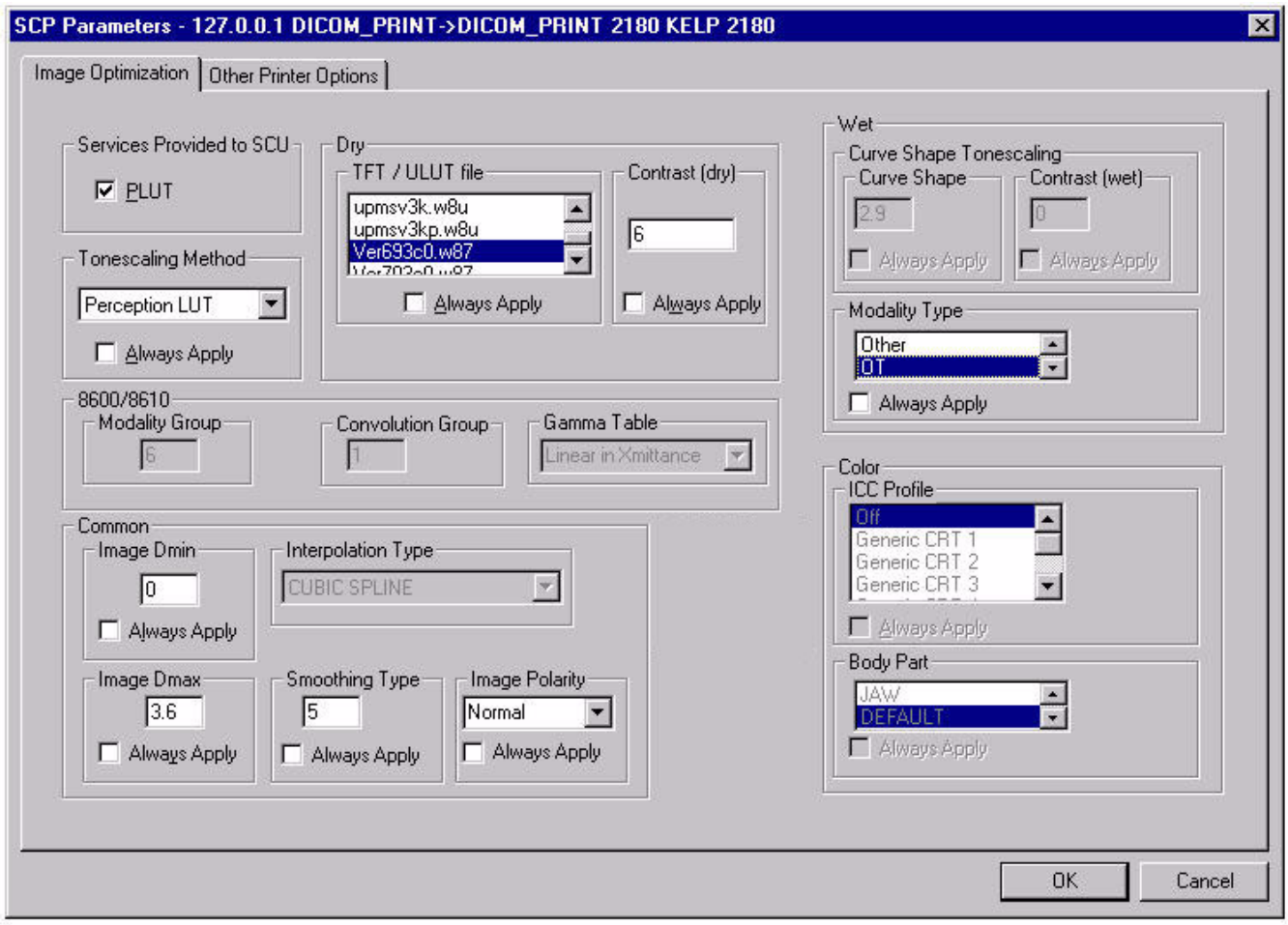
[1] Send an image from each SCU to record its IP Address with the MIM.

[2] At the “MIM Service Application” window, select **Configure>SCP Services**.



[3] From the “List of Connected SCUs,” select the first SCU and click [Modify].

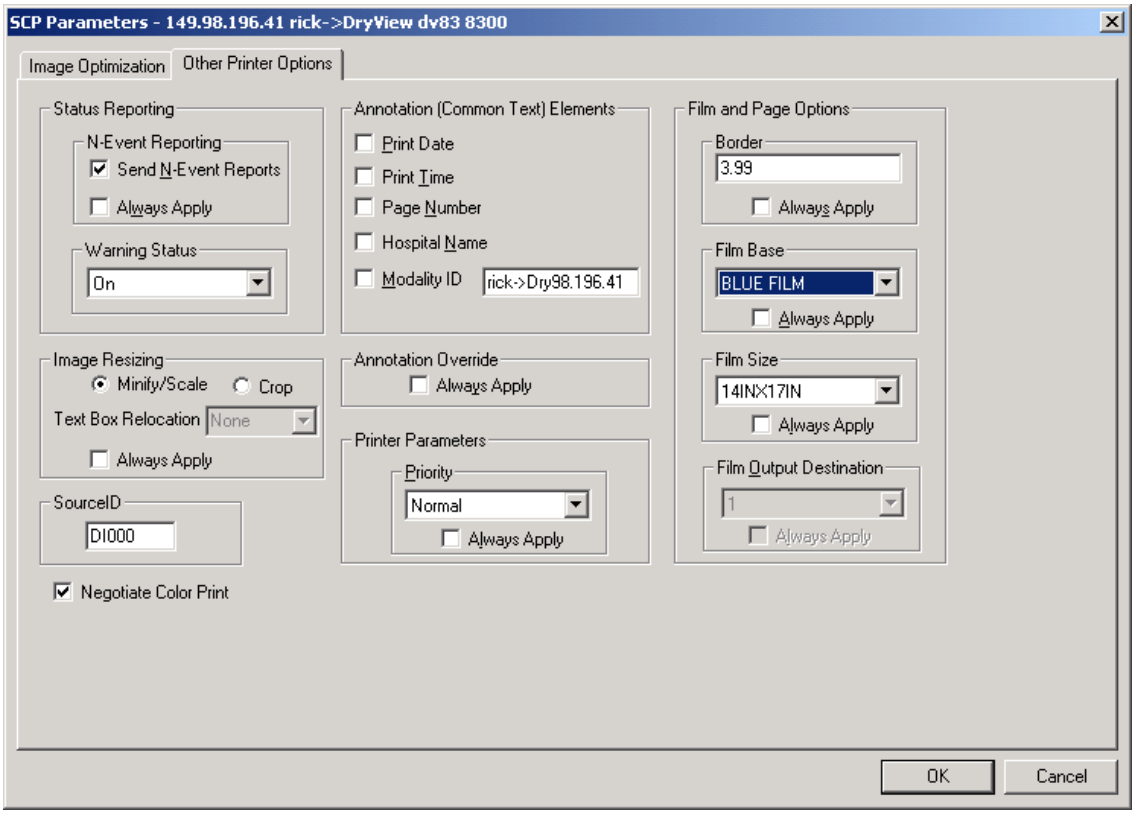
Figure 8–1 **SCP Parameters - Image Optimization**



[4] Check the parameters on the Image Optimization Tab and change if necessary. See Table 8–1 on Page 8–5 for recommended parameter values.

[5] Click on the Other Printer Options tab to select the second screen of parameters.

Figure 8–2 **SCP Parameters - Other Printer options**



[6] Change the parameters if necessary. See Table 8–2 on Page 8–6 for recommended parameter values.

[7] Send an image from the SCU to the MIM and PRINTER, and check quality of the image.

[8] Repeat this procedure from Step 1 for each SCU.

Table 8–1 Setting Defaults for the Image Processing Parameters

Parameter	Selection	
	***Kodak DryView* LASER IMAGERS**	**160, 1120, 2180 LASER IMAGERS/PRINTER**
Services Provided to SCU	Select **PLUT**	Select **PLUT**
Tonescaling Method	Select **Perception LUT***	Select **Curve Shape***
TFT/ULUT file	Select the TFT or ULUT file that applies to MODALITY.* Does not apply to 8600 and 8610 LASER IMAGER.	Does not apply.
ICC Profile (color compensation)	Does not apply.	Does not apply.
Contrast (dry)	Type a number from 1 to 15,* except for 8600 and 8610 LASER IMAGER, see note**.	Does not apply.
Image Dmin	Type 0.0*	Type 0.0*
Image Dmax	Type a number from 1.7 to 3.2 for all, except type 3.5 for 8600 and 8610 LASER IMAGER.*	Type a number from 1.7 to 3.2 for 160, 1120, 2180 IMAGERS.
Modality Type	Does not apply.	Select correct type.*
Body Part	Does not apply.	Does not apply to 160, 1120, 2180 IMAGERS.*
Modality Group	Type a number from 1 to 11. Applies only to 8600 and 8610 LASER IMAGER. See note***	Does not apply.
Curve Shape	Does not apply.	Type a number from 0 to 69.* 30 is recommended.
Contrast (wet)	Does not apply.	Type a number from -5 to +5. Recommend 0 for DMI.
Interpolation Type	Select **Cubic**. Applies only to 8600 and 8610 LASER IMAGER.	Select **Bilinear**, **Cubic** or **Replicate**.*
Convolution Group	Type a number from 0 to 11. Applies only to 8600 and 8610 LASER IMAGER.	Does not apply.
Gamma Table	Type 0 for Linear in Density. Type 1 for Linear in Xmittance. Applies only to 8600 and 8610 LASER IMAGER.	Does not apply.
Smoothing Type	Type a number from 0 to 15 for all.* (1 is recommended for 8600 and 8610 LASER IMAGER.)	Type a number from 1 to 15.*
Image Polarity	Select **Normal** or **Reverse**.	Select **Normal** or **Reverse**.

* Selecting **Always Apply** will cause the parameter set at the SCP to be used, not the corresponding parameter from the SCU.
** For 8600 and 8610: The range is 1-12. Set Contrast to 3 for GE Senographe 200D, 6 for Lorad TDMS, and 3 for Fischer.
*** For 8600 and 8610: Set Modality Group to 6 for GE Senographe 200D, 7 for Lorad TDMS, and 3 for Fischer.

Note

Functions of the image processing parameters are described in Table 8–3 on Page 8–6.

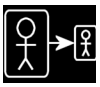
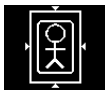
Table 8–2 Setting Defaults for Status Reporting, Annotation, Printer Parameters, Film and Page Options, and Image Resizing

Parameter	For all *Kodak* LASER IMAGERS/PRINTERS:
Status Reporting	For "N-Event Reporting": Select **Send N-Event Reports**.* Default is De-Select for Siemens products. May need be selected for other products.
	For "Warning Status": Select **Off** or **On**.* (Default is On).
Annotation (Common Text) Elements	Select **Print Date** to display current date on film.*
	Select **Print Time** to display current time on film.*
	Select **Page Number** to display sequential numbers on film.*
	Select **Hospital Name** to display Site/Hospital name field within Service Tracking Information screen on film.*
	Select **Modality ID** to display a name of the MODALITY on film. Type the name to be displayed the adjacent text box.*
Printer Parameters	For "Priority": Select **Low**, **Normal** or **Stat**.*
Film and Page Options	For "Border": Select **Clear** or **Black.**"*
	For "Film Base": Select **Clear Film**, **Blue Film** or **Paper**.*
	For "Film Size": Select the film size to be used. *
	For "Film Output Destination": **Select Bin 0-9**, **969 Processor** or **969 Magazine**.*
Image Resizing	Select **Minify/Scale** or **Crop** to resize images.
Text Box Relocation	For "Text Box Relocation": select **Top, Bottom**, or **None** to cut and place text information back in cropped images.
SourceID	Not adjustable - for information only.
Border DMAX	Type a number from 0.00 to 3.99. Note: for the 160, 2180 and 8900 the default border Dmax = Image Dmax.
* Selecting **Always Apply** will cause the parameter set at the SCP to be used, not the corresponding parameter from the SCU.	

Table 8–3 Image Processing Parameter Definitions

Parameter	Descriptions
PLUT	Presentation Lookup Table - This DICOM standard for tonescaling attribute can be sent by the SCU to help provide an optimum image. If checked, the SCP will negotiate PLUT Service if requested by the SCU.
Tonescaling Method	Perception LUT - This is a Kodak standard that uses TFT sets to help provide optimum images. It is used normally with *Kodak DryView* LASER IMAGERS, but can be used also with the 1120 and 2180 LASER IMAGERS. Curve Shape - This is a Kodak standard that uses curve shape to help provide optimum images. It is used normally with 1120, 2180, and 160 IMAGERS/PRINTERS.
TFT/ULUT file	Transfer Function Table/ User Lookup Table File- A set of curves that can be selected according to MODALITY requirements. See the descriptions of TFTS and ULUTs later in this section.
Contrast (dry)	Used with a TFT/ULUT set, this number controls which TFT/ULUT curve will be used.
ICC Profile (CRT1-CRT6)	Used with DMI 1200 and 3600 color PRINTERS only. A CRT profile is selected to help the image data match that of the monitor of the MODALITY. As the CRT number is increased, the image darkens. Does not apply to V_6.0.
Image Dmin (0.00-3.98)	Indicates the minimum density of the image area of the film. Must be lower than Image Dmax.
Image Dmax (0.01-3.99)	Indicates the maximum density of the image area of the film. Must be higher than Image Dmin and cannot be higher than Border Density.
Curve Shape (0.0-69)	This field allows for a coarse adjustment in matching the film to the MONITOR. Curve shape 0 is linear. Increasing the value in this field enhances density differences in the dark areas of the image.
Contrast (wet) (-5 to +5)	Used with Curve Shape to allow a fine adjustment in matching the film to the MONITOR.

Parameter	Descriptions
Modality Type	Selected to help provide an optimum image according to type of MODALITY (CT, MR, etc.). Used only with 1120 and 2180 IMAGERS/PRINTERS.
Body Part	Adjusts the image depending on body part. Used only by 1200 and 3600 DMI. Does not apply to V_6.0 and above.
Modality Group (1-11)	Used by the 8600 and 8610 LASER IMAGER only. The number selects a ULUT from among a group: 1 = upmsv3kp.w8u 2 = u693c0p.8wu 3 = u713c0p.w8u 4 - gsdfp.w8u 5 = gsdfll0p.w8u 6 = gsdfaa0p.w8u 7-11 - upmsv3kp.w8u
Interpolation Type	Selected to help provide an optimum image by specifying characteristics of image pixels and image appearance. Options are Cubic, Replicate, Bi-linear, or None. Used only with the 1120 and 2180 PRINTERS.
Convolution (kernel) Group (0-11)	Used only with the 8600 and 8610 LASER IMAGER to select the smoothing group to be used.
Gamma Table (0-1)	Used only with the 8600 and 8610 LASER IMAGER to select either the Linear in Density (0) or Linear in Transmittance (1) algorithm.
Border DMAX	Limits the maximum density of the image border. Increasing the value increases the maximum density of the image border. The value must be equal to or greater than the image dmax value.
Smoothing Type (0-15)	Selects a “smoothing” value (level of smoothing/sharpness). Used only with *Kodak DryView* LASER IMAGERS.
Image polarity	Determines whether image is normal or reversed in polarity.
Priority	Determines whether print priority is Low, Normal or Stat (high).
Border	Selects either a Black or Clear image border.
Film Base	Selects BLUE FILM, CLEAR FILM, or PAPER.
Film Size	Selects a default size for the film.
Film Output Destination	Indicates film destination: Processor, Magazine, or (for 2180 PRINTER only) Bin 0-9
Send N-Event Reports	Enables SCP support of N-Event reporting for this SCU.
Warning Status	Enables or disables PRINTER warning messages to SCU.
Annotation (Common Text) Elements	Print Date - Prints the date the image file was received. Print Time - Prints the time the image file was received. Page Number - Prints page numbers on film. Hospital Name - Prints the Hospital Name text field entered in the “Service Tracking Menu” of the “MIM Service Application.” Modality ID - Prints the text entered in the adjacent field.
Image Resizing	Image Resizing: The Requested Decimate / Crop DICOM element within DICOM Basic Print is supported and determines if an image should be cropped, minified, or scaled when the size or requested size of the image is greater than the printable area of the film. Images are automatically resized using a combination of Scaling, Minification, and Cropping. An icon is printed at the bottom right hand corner of the film indicating images were resized and the type of resizing method applied.
Negotiate Color Print	When enabled, the MIM SCP will attempt to negotiate color print SOP with the SCU.

Parameter	Descriptions
Minify/Scale	Select Minify/Scale to enable both minification and scale reduction and applies the appropriate method, where: • Minify: reducing the raw physical image to a new smaller physical size maintaining the aspect ratio of the original image (removing pixel data). An image might be minified if the image size is larger than the media in the laser imager.  • Scale: reducing Requested Image Size to a smaller size that can be successfully printed. An image might be scaled if the requested image size cannot be magnified to the full size requested. The full image is printed but the size of the image is reduced to allow it to print on the media that is closest to the requested size. Minify/Scale is the default.
Crop	Select Crop when using Requested Image Size to remove the image's perimeter to allow the image to fit on the media and print the same scale as the anatomical area of interest. Cropping: Removing image data from the outer edges of the image so that it fits on the printable film area maintaining aspect ratio. Cropping allows "true size" printing for larger images. True size printing provides a common scale between images captured on analog systems that use medical x-ray film exposed by phosphor screens in cassettes and printed digital images. The anatomical area of interest is printed at the same size that it is captured on the analog system.  **Caution** With cropping, the edges of the image file are removed. If anatomical areas of interest are near an outer image edge, they might be removed from the image when it is printed. Do not use cropping for images with areas of interest near the edges or corners.
Text Box Relocation	Allows patient and exam information to be cut and placed back in a cropped image. **Caution** • When Top or Bottom is selected, the corners are cut and placed back into the cropped image. If anatomical areas of interest are near the image corners, image data might be skewed or obscured if the corner areas are moved. If anatomical areas of interest are near an image corner, select None before you print. • Patient and exam information in any area but the top or bottom corners is not supported. Depending on the location, the information might be cropped from the image.

Using the DISPLAY KEYPAD to Set Up Image Parameters for the SCP

[1] Send an image from each SCU to record its IP Address with the MIM.

[2] Press [Menu] on the DISPLAY KEYPAD to display the Main Menu.

[3] Press [Down Arrow] until the cursor is at “Service Menu”.

[4] Press [Menu] to display the Service Menu.

```
> Exit Menu
  Machine Setup Menu
  Configuration Menu
  Diagnostics Menu
  SCP Services
```

[5] Press [Down Arrow] until the cursor is at “SCP Services”.

[6] Press [Menu]. The screen displays the IP Address and description of each SCU that is connected to the MIM.

```
> Exit Menu
  149.98.202.203   MIM
  10.211.23.129    Arrhus_DCP
  129.176.155.74   Mayo_DCP
```

[7] Press [Down Arrow] until the cursor is at the IP Address of the first SCU to be set up.

[8] Press [Menu] to display the “SCP Services” screen.

```
> Exit Menu
  Image Resizing
  Relocate Text Box
  N-EVENT Reporting
  Warning Status
  PLUT
  Color
  Tonescaling
  Curve Shape/TFT
  Contrast
  Interp/Smoothing
  Image DMin
  Image DMax
  Polarity
  Border
  Convolution Group
  Modality Group
  Gama Table
  Modality
  CRT Profile
  Body Part
  Film Output
  Size
  Base
  Priority
  Page Annotation
  Delete AE Title
  Exit Menu
```

[9] Use the [Down Arrow] or [Up Arrow] key to select parameters to be changed.

Note

For the parameter values that apply to the MODALITY, see Table 8–1 on page Page 8–5 and Table 8–2 on Page 8–6. Full descriptions of the parameters are available in the User Guide for the MIM.

[10] Use the [Arrow] and [Menu] keys to change parameter values when necessary.

Note

If "Always Apply" is set to "Y," the system values will be used, not the parameter input from the SCU.

[11] After setting the parameter values, send an image from the SCU to the MIM and check quality of the image.

[12] Repeat steps Step 6 through Step 11 for each SCU on the list displayed in step Step 6.

Using the KEYPAD to Create Optimum Images for the SCU

For MOD SERVERS, parameters for the images can be set up using the TOUCHSCREEN or PRINT KEYPAD. Complete procedures are provided in the User Guide for the MIM. Options for parameter values are provided in Table 8–4.

- For a TOUCHSCREEN KEYPAD: Display the "Keypad Svcs" menu. After making a selection, adjust within the "Imaging Options" menu.
- For a PRINT KEYPAD: Display the "Machine Setup" menu. After making a selection, adjust within the "Imaging Options" menu.

Table 8–4 SCU Parameters for Images Set by KEYPAD

	For *Kodak DryView* LASER IMAGERS		**For other *Kodak* LASER IMAGERS/PRINTERS**	
Parameter	TOUCHSCREEN KP	PRINT KP	TOUCHSCREEN KP	PRINT KP
TFT/ULUT	See Note below.	See Note below.	_	_
Curve Shape	_	_	Enter a number from 0 to 6.9	Enter a number from 0 to 6.9
Contrast	Enter a number from 1 to 15	Enter a number from 1 to15	Enter a number from -5 to +5	Enter a number from -5 to +5
Dmax	Enter a number from 0.01 to 3.99	Enter a number from 0.01 to 3.99	Enter a number from 0.01 to 3.99	Enter a number from 0.01 to 3.99
Dmin	Enter a number from 0.00 to 3.98	Enter a number from 0 to 3.98	Enter a number from 0.00 to 3.98	Enter a number from 0 to 3.98
Interpolation	Select **Curve**, **Replicate**, **Bilinear** or **None**	Select **Curve**, **Replicate, Bilinear**, **None**	Select **Curve, Replicate**, **Bilinear**, **None**	Select **Curve**, **Replicate**, **Bilinear**, **None**
Border	Select **Black** or **Clear**	Select **Black** or **Clear**	Select **Black** or **Clear**	Select **Black** or **Clear**
Border Dmax	Enter **3.99**	_	**3.99**	_
Polarity	Select **Normal** or **Reverse**	_	Select **Normal** or ***Reverse***	_
Note: Selection varies by MODALITY. See information on TFTs and ULUTs on the following pages.				

Setting Up Print Server for True Size Printing - Cropping of Images

When a DICOM modality such as CR or DR uses “requested image size” to send an image to the printer that is beyond the range of the printer, MIM can crop the image so that it fits on the film achieving true size. In some cases, a site may wish to print only some of the films from the modality using true size printing (cropping) and some films without cropping.

Caution

With cropping, the edges of the image file are removed. If anatomical areas of interest are near an outer edge of the image, they might be removed from the image when it is printed. Do not use cropping for images with the areas of interest near the edges or corners.

Important

To set up using both cropping and non cropping, it is necessary to create 2 destinations at the SCU with the same IP address and port, giving 2 unique AE Titles for the destinations. Determine if a customer wants to print using both cropping and non-cropping from a modality.

Setting Up the SCU for Cropping

[1] Send an image from each SCU to record its IP Address.

[2] At the “MIM Service Application” window, select C**onfigure>SCP Services**.

[3] From the “List of Connected SCUs”, select the correct SCU and click [Modify].

[4] Click [Other Printer Options], and select “Crop” under “Image Resizing”.

[5] Check “Always Apply”.

[6] Select “Top” or “Bottom” under “Text Box Relocation” depending on the location of the text, if text on image will be saved and relocated.

[7] Click [OK] to close the SCP Parameters screen.

Text Box Relocation

Important

This procedure needs to be done using *pcANYWHERE* and the Service Application that resides on the MIM.

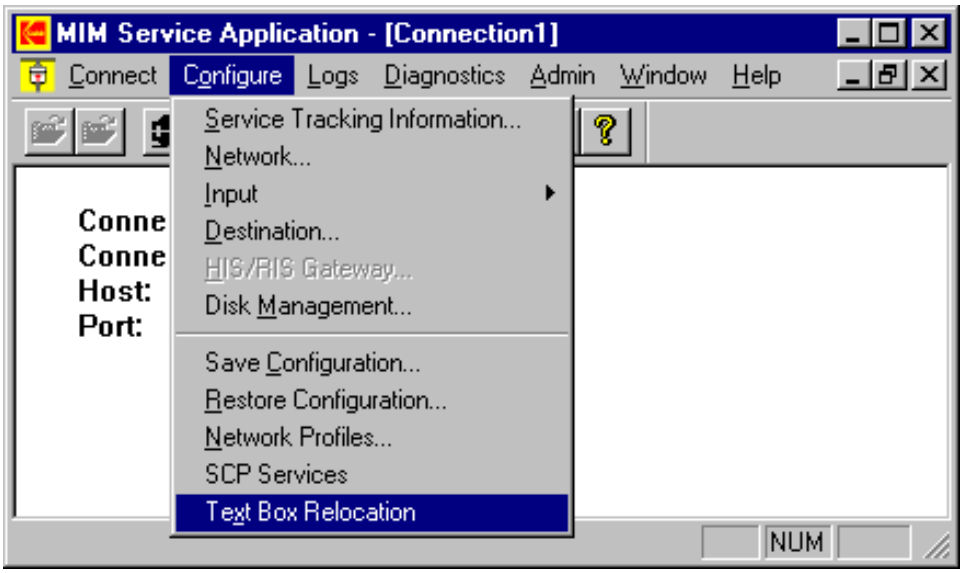
Note

You can only relocate text from 2 places on the image.

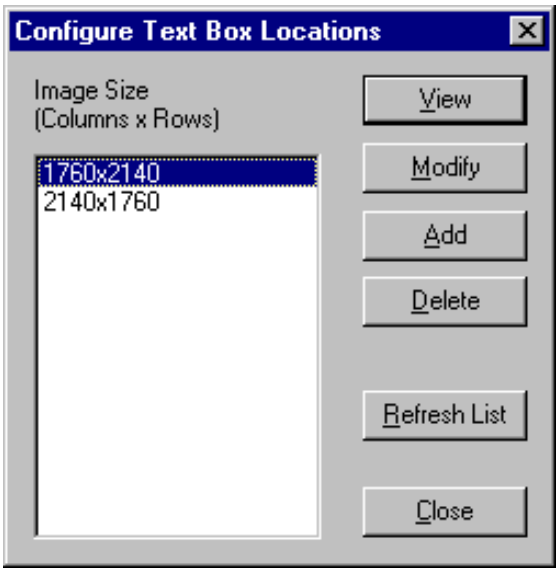
Caution

When Top or Bottom is selected, the corners are cut and placed back into the cropped image. If anatomical areas of interest are near the image corners, image data might be skewed or obscured if the corners are moved. If anatomical areas of interest are near an image corner, select None before you print.

[1] At the "MIM Service Application" window, select **Configure>Text Box Relocation**.



The "Configure Text Box Location" screen displays.

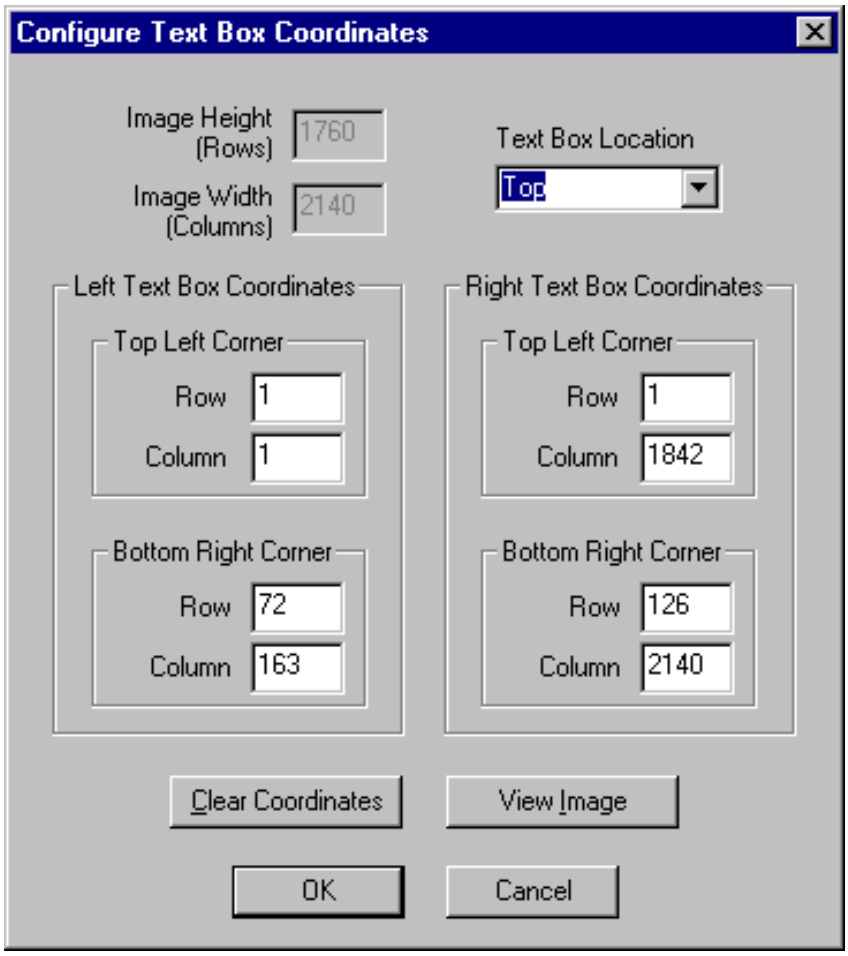


[2] Click [Refresh List] to see all the image sizes that have been sent to the Print Server.

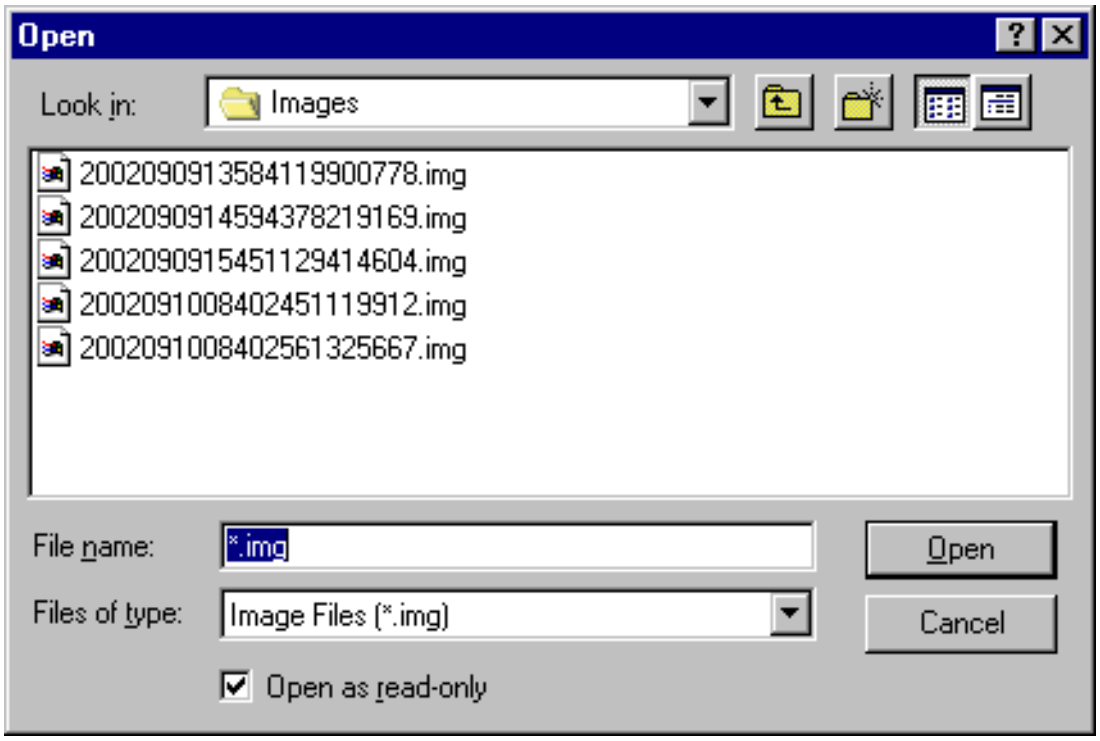
Note

If you know the image size from the modality, and it does not appear in the list, click [Add] to directly add this image size for Text Box Relocation configuration.

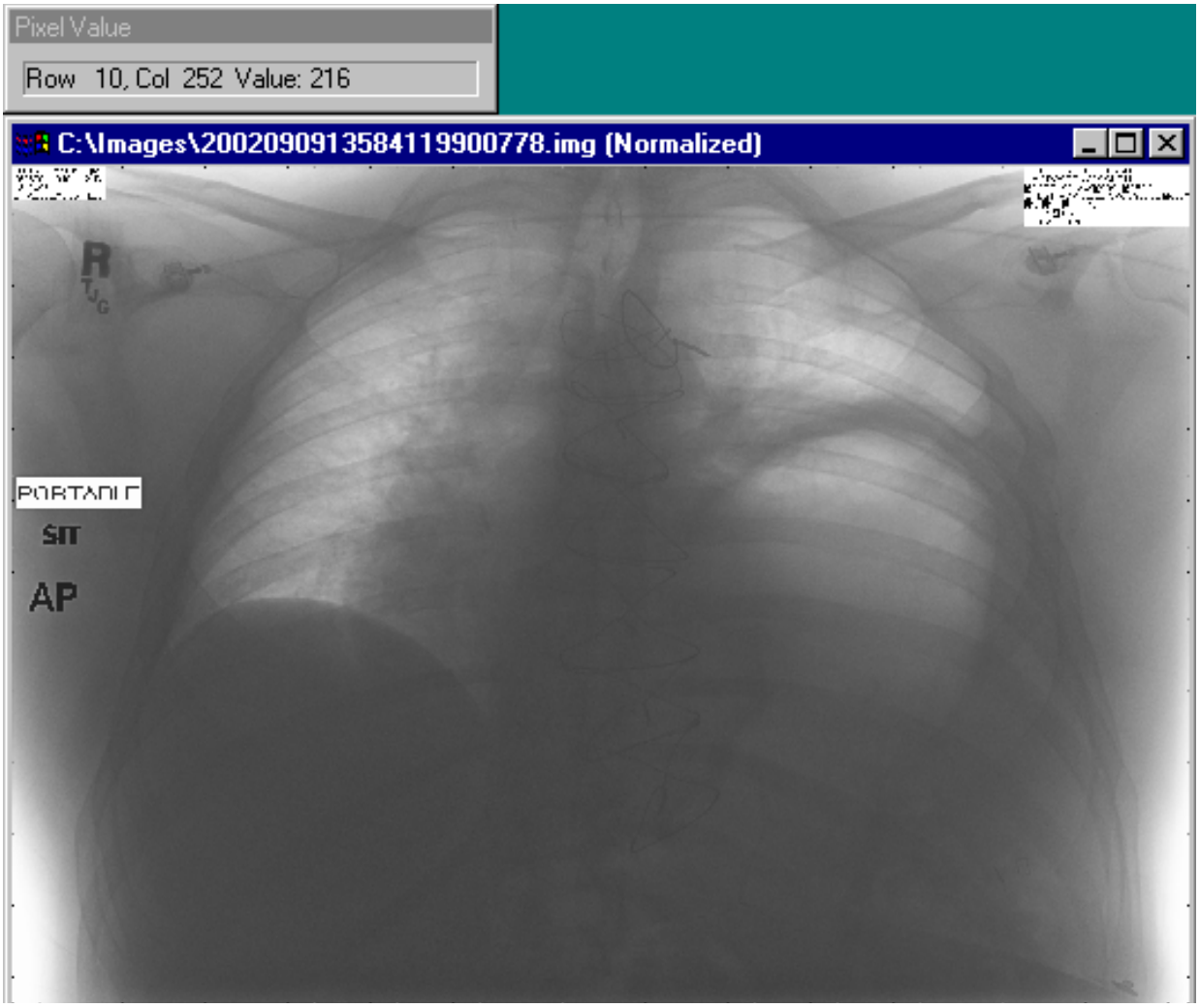
[3] Select an image size in "Columns x Rows", and click [Modify] to edit Text Box Coordinates.



[4] Click [View Image] to view an image in MIM.

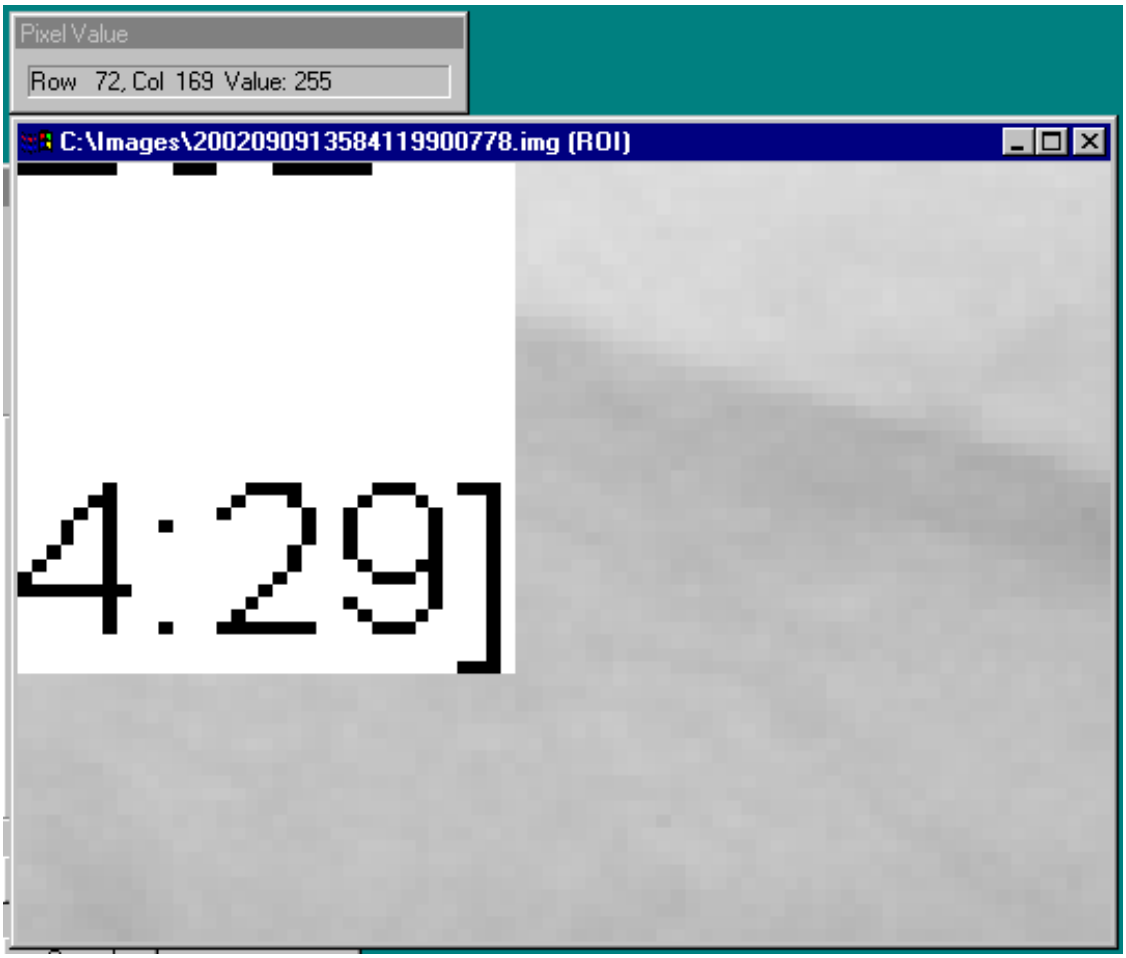


[5] Select the appropriate image, and click [Open].



[6] Move your mouse to the Text Area for the text box that you are relocating.

- Click to zoom an area of interest.
- Click and drag to select an area of interest and zoom.



Note

If you increase the image size too much and you can no longer determine coordinates, right-click to get the original image size.

[7] Position the mouse over the top left corner and bottom right corner of each text box and record the coordinates. The coordinates are displayed in "Pixel Value" by row and column.

[8] Enter the parameters in the "Configuration Text Box Coordinates" window.

a. At "Text Box Location" select "Top" or "Bottom".

b. Type the values for the first text box in the "Left Text Box Coordinates".

c. Type the values for the second text box in the "Right Text Box Coordinates".

[9] Click [OK] to close "Configuration Text Box Coordinates".

Transfer Function Table (TFT) Sets and User Lookup Tables (ULUTs)

References

This information is designed to help in the selection of the correct TFT set or ULUT during the process of image optimization.

- MPC (Maintenance Software Package) TFT Help file for LASER IMAGERS
- KHI Documentation Database (USLN331/US/EKC/IOL Product Info)
- TFTSV3.4 T S.Rev6.document
- meta_ULUTs.document

Definitions

Note

Do not confuse a TFT *set* with a TFT. Image quality is significantly affected by the single, specific TFT that was used in making a print. Image quality is totally unaffected by the other TFTs in the set. The TFT set is simply a container, and all of its contents may not be useful or correct for a given MODALITY or a given density setting. In fact, some TFT sets are quite diverse. They offer a wide variety of looks within a single set of 15 TFTs. Some TFTs in a given TFT set may be completely unacceptable to a customer for a specific MODALITY, while one may be just right. That is, it is preferable to any other TFT in any other TFT set.

TFT: A table (curve) used in closed-loop *Kodak DryView* LASER IMAGERS that relates each digital input value to a corresponding target value of perceived brightness.

TFT Set: A set of 15 TFTs that represent 15 different curve shapes, each of which is associated with a corresponding user-selectable contrast selection (1-15).

Contrast: A user-selectable setting from 1 through 15 on the LASER IMAGER that initiates the associated TFT for the current print.

Density: A user-selectable setting that determines the maximum density (Dmax) used in printing.

ULUT: The tables, or curves, that are used in *Kodak DryView* 8300, 8600, and 8610 LASER IMAGERS.

Selecting TFT Sets

When selecting a TFT for a given MODALITY, first try the contrast and density settings for the TFT set suggested in the following table. The selections shown there are recommended for the majority of users. Other selections are useful in certain situations, depending on radiologist preference, etc.

When determining with the customer which TFT set to select, it is important to print using all of the available TFTs, by using all 15 contrast settings or doing one contrast test film. It is equally important to note the specific contrast setting (i.e., the specific TFT) and the TFT set that best satisfies the customer. Similar or identical individual TFTs may occur in multiple TFT sets. For example, in VER693C0, the popular perceived linear TFT 6 is essentially the same as TFT 9 of PMSV3K and is also similar to TFT 8 of C3B5AX4. Where more than one TFT set contains a TFT that is satisfactory to the customer, deciding which set to install should be based on the set that gives the customer more usable choices on a contrast test.

MODALITY	TFT Set	Contrast (TFT#)	Density	Comments
AutoRad Workstation (typical)	VER693C0	6	3.0	Limited experience
AutoRad Workstation (others)	C3B5AX4	8	3.0	Limited experience
	C3B5AX4	10	3.0	*GE* Workstation with *AutoRad* BOARD (limited experience)
	WKSTN2A	2	3.0	Most CR's (*Kodak* CR800, *Agfa* VIPs, *Kodak* CR400): MagType = cubic; smoothing = 5; local PRINTER set for 12-bit
CT (typical)	VER693C0	6 or higher	3.0	Head and body
CT (others)	VER713C0	6 or higher	3.0	Head and body
	SIECT87B	6	2.8	For Siemens, Europe. Contrast setting has little effect
	PMSV3K	9	3.0	Philips
	VER693C0	8	2-8	Elscint
	VER713C0	6	2.9-3.0	*Picker* PQ
	VER723C0			*GE* CTi
DSA (typical)	VER713C0	6-8	2.7-3.0	
DSA (others)	VER713C0	6-8	2.9	*GE* DF5000 DSA
	PMSV3K	9	3.0	*Philips* DSI
	VER713C0	8-12	3.0	
	C3B5AX4	2	3.0	
	C3B5AX4	8	3.0	ATS Dig. Fluoro
	SFH301A4	Set to density (1-15)	2.9	*Siemens Fluorospot* H (developed for HQ)
	SIEFL87B	5	3.0	*Siemens Fluorospot* DSA
Fuji CR through 2210 CREIB or Analogic SD100	FCR302C4	12	2.8	
MR (typical)	VER693C0	6	3.0	
MR (others)	VER693C0	4	3.0	*Picker* MR
	VER713C0	11	3.0	Lunar Arthroscan
	SIEMR87B	5	2.6	For Siemens, Europe. Contrast setting has little effect
	PMSV3K	9	3.0	*Philips* Gyroscan
	VER693C0	6	3.0	Elscint
	AIRIS2A	8	3.0	*Hitachi* Airis
Nuclear Medicine (typical)	VER713C0	9	2.2	
Nuclear Medicine (others):	PMSV3K	7	2.2	YMS (bone)
	MAXXUS	8	2.2	YMS (SPECT)
	WRKSTN2A	7-8	1.9	Toshiba. Limited experience
	B3C5AX4	10	2.3	Picker (Limited Experience)
Philips Easyvision		PMSV3K	9	3.0
Philips Thoravision		B3C5AX4	11	3.0
Philips V3000/V4000		PMSV3K	15	3.0
Picker Digital Reconstructed Radiography (DRR)	VER693C0	6	3.0	
Siemens Camera Server (Set to output linear-in-density)	WRKSTN2A	3	2.8	Note that TFTs 1-8 are designed for densities of 3.2 - 1.8, respectively

MODALITY	TFT Set	Contrast (TFT#)	Density	Comments
Siemens Camera Server (Others)	SIEWS87B	3	2.8	A slight modification to WRKSTN2A, to match *Siemens Sienet* WS test requirements in Europe
Siemens Polytron (TOP interface)	SIEPOLY	10	3.0	Equivalent To PMSV3K
Ultrasound (typical)	PMSV3K	8-13	2.4-2.8	
Ultrasound (others):	PMSV3K	9 (depends on radiologist)	2.4 - 2.8	*Acuson* Ultrasound
	PMSV3K	12	2.4	*GE* Ultrasound
	PMSV3K	9	2.4	*Toshiba* Ultrasound

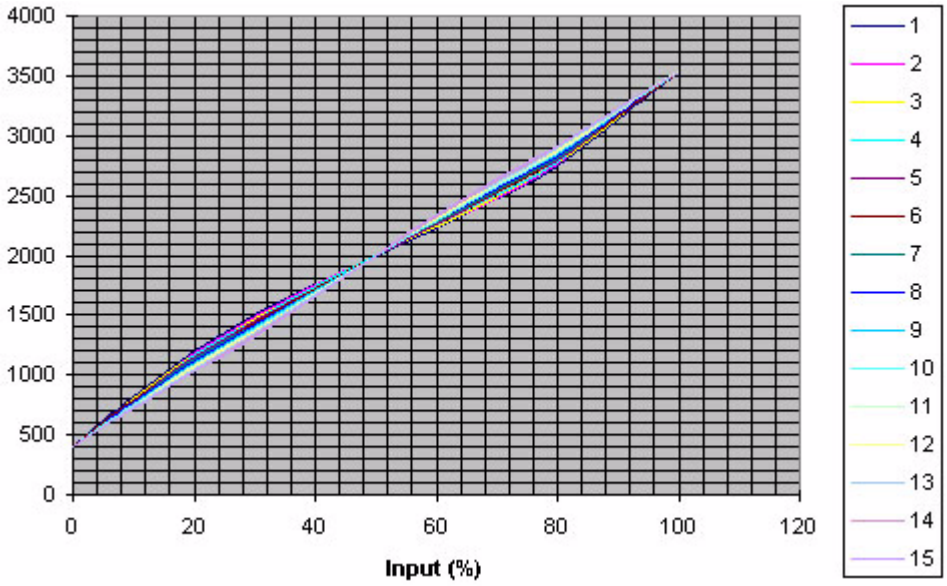
TFT Set Descriptions

The following are the TFT set choices available for use with 969, 8500, 8700, 8100, and 8200 LASER IMAGER and 8800 MULTI-INPUT MANAGER applications.

AIRIS2A: Designed to meet Hitachi requirements for a TFT set which, when used for printing on *Kodak DryView* films, can perceptually match films printed on a 969 HQ (wet) LASER IMAGER when TFT Set VER693C0 (with Contrast=6 and Dmax=3.0) is used in the HQ.

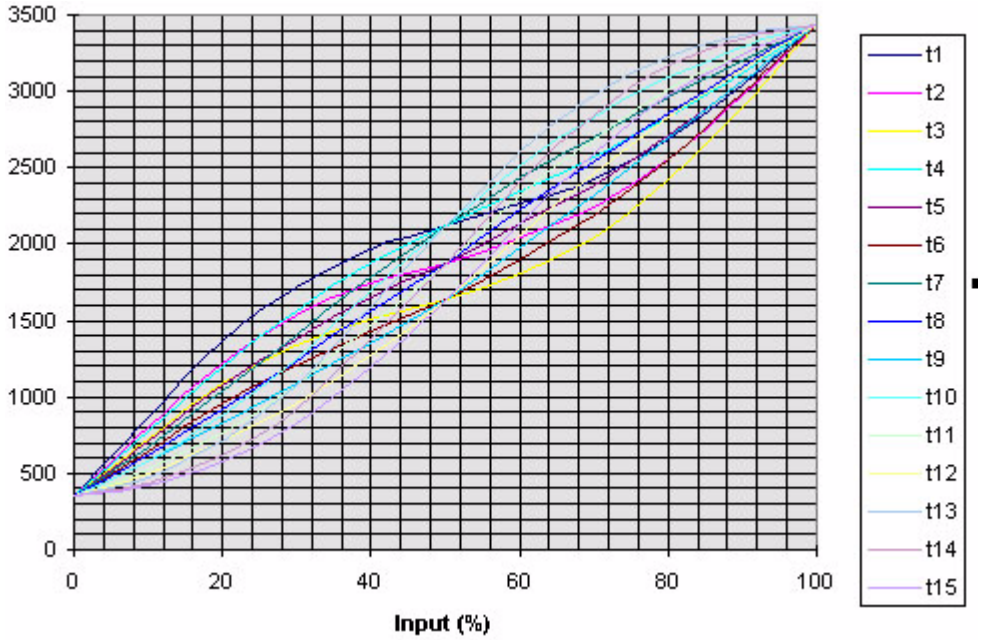
To accomplish this, the AIRIS2A TFT Set is designed for overall similarity to the VER693C0 TFT Set, but provides slightly lower measured densities in the darker part of the density range. Specifically, in the AIRIS2A Set, the Contrast=8 TFT is designed to provide dry prints which perceptually match the Contrast=6 wet prints made using VER693C0 on an HQ, with Dmax=3.0 for both prints.

The plots of this TFT Set (see the chart below) show that all 15 of the tables have the same mid-tone brightness, with varying degrees of an S-shape which gives the strongest end-points contrast (slope) to Table 12 and the strongest mid-tone contrast to Table 15. Note that this TFT Set provides a narrower range of curves than the VER693C0.



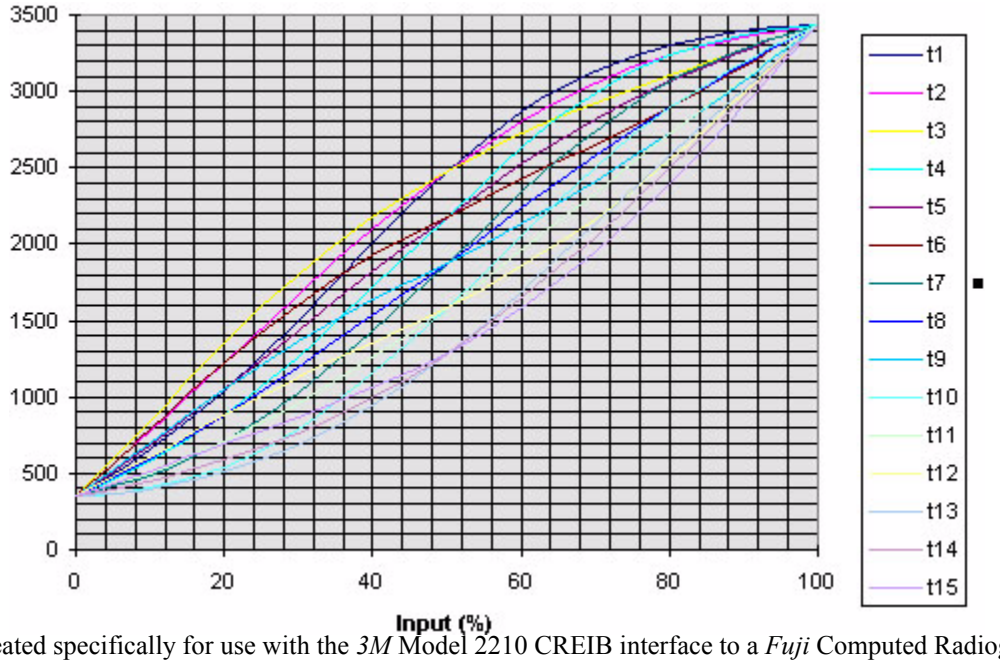
B3C5AX4: Allows moderate departures from the basic VER693C0 curves. Curves 2, 5, 8, 11 and 14 roughly cover the span of VER693C0. The remaining curves provide more mid-tone brightness choices (curves 1, 4, 7, 10, and 13 = the brightest, and curves 3, 6, 9, 12, and 15 = the darkest). In all, there are 5 mid-tone contrast choices for each of 3 mid-tone brightness choices

The plots on the chart show the two-dimensional brightness/contrast combinations provided by this TFT Set. The numbering of the TFTS in the set is such that when a 3 (horizontally) x 5 (vertically) contrast test film is printed, the printed images are of decreasing brightness going from left to right and increasing mid-tone contrast going from top to bottom on the film.



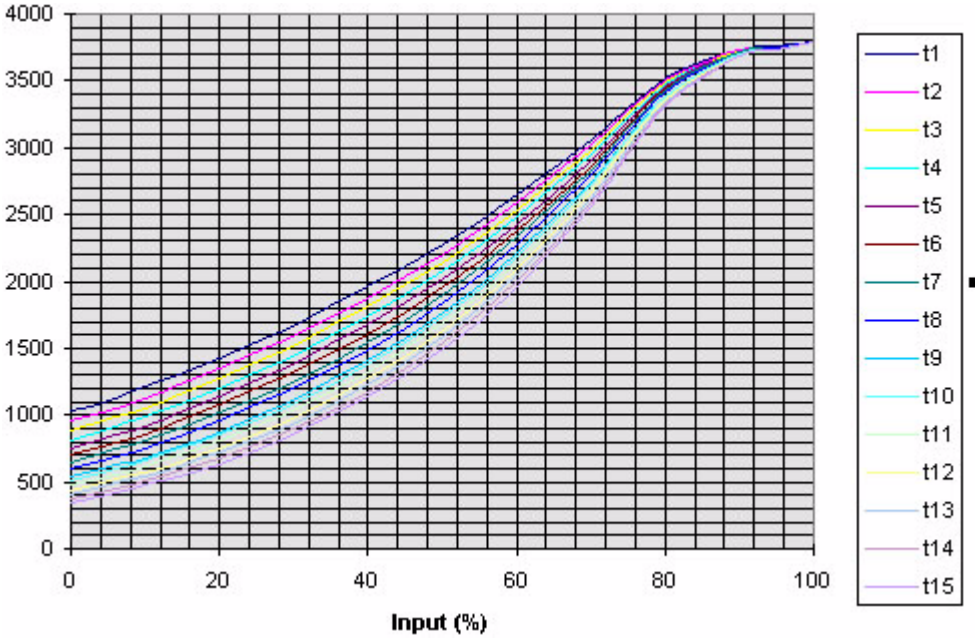
C3B5AX4: Allows moderate-to-strong departures from the basic VER693C0 curves. Curves 7 through 9 cover roughly the span of VER693C0 and the remaining curves provide more choices of mid-tone brightness: Curves 1 through 3 = the brightest, and curves 13 through 15 = the darkest. In all, there are 3 mid-tone contrast choices for each of 5 mid-tone brightness choices.

The plots on the chart show the two-dimensional brightness/contrast combinations provided by this TFT Set. The numbering of the TFTS in the set is such that when a 3 (horizontally) x 5 (vertically) contrast test film is printed, the printed images are of decreasing brightness going from top to bottom and decreasing mid-tone contrast going from left to right on the film.



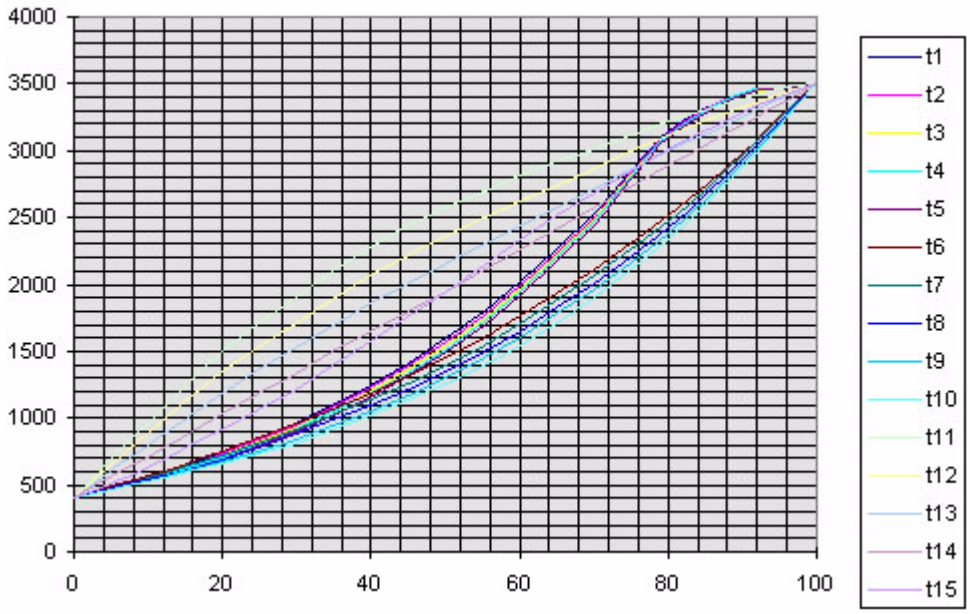
FCR302C4: Created specifically for use with the *3M* Model 2210 CREIB interface to a *Fuji* Computed Radiography system. This TFT set should not be used for any other application. The 15 TFTs in this set are designed to be used in correspondence with the 15 Dmax choices of the IMAGER (using Contrast 1 when the first Dmax setting is used, etc.). The plots in the chart

below show a sagging shape, which is characteristic of a “linear in density” behavior, until maximum brightness (Dmin) is approached, at which point the curves become relatively flat.



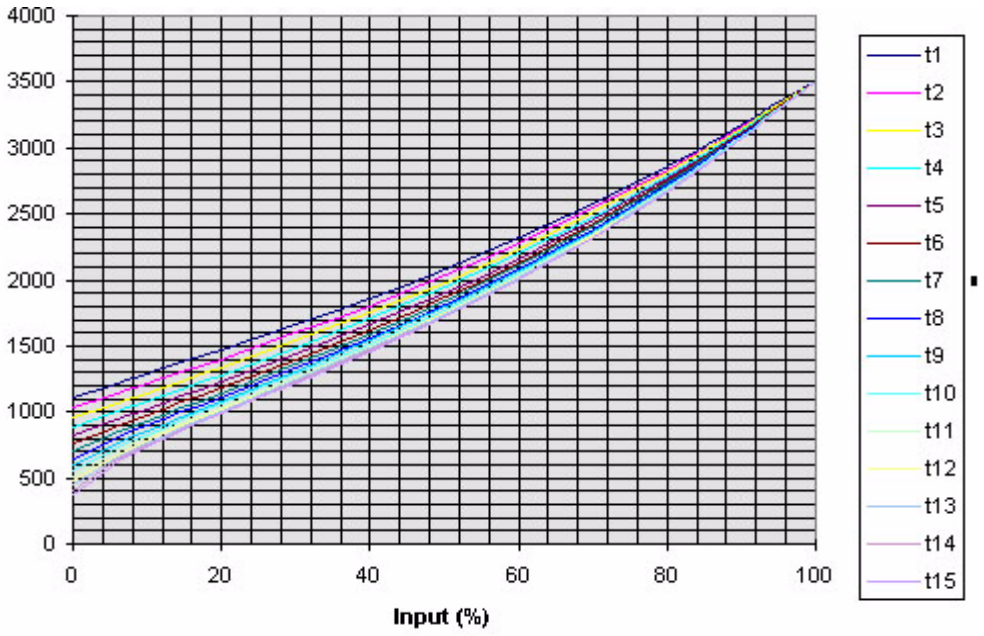
GEHYB01: A hybrid (multi-MODALITY) TFT set that supports the various imaging MODALITIES which may be connected to a *GE* (Amber) Workstation. These MODALITIES include *Fuji* Computed Radiography (CR), CT, MR, Ultrasound and any MODALITY that expects a linear-in-density PRINTER. The following table defines how the 15 TFTs can best be applied to the various MODALITIES supported by this TFT Set.

Contrast Setting (TFT No.)	Application
1	*Fuji* CR, with Dmax = 2.6
2	*Fuji* CR, with Dmax = 2.7
3	*Fuji* CR, with Dmax = 2.8
4	*Fuji* CR, with Dmax = 2.9
5	*Fuji* CR, with Dmax = 3.0
6	Linear in Density, Dmax = 2.6
7	Linear in Density, Dmax = 2.6
8	Linear in Density, Dmax = 2.6
9	Linear in Density, Dmax = 2.6
10	Linear in Density, Dmax = 2.6
11	Ultrasound (highest mid-tone brightness)
12	Ultrasound (moderate mid-tone brightness)
13	Ultrasound, CT or MR
14	CT or MR
15	CT or MR



GSDF0: A TFT set in which all 15 curves are designed to conform to the NEMA Grayscale Standard Display Function as applied to the case of transmissive film media under certain typical conditions. For optimum conformity with the standard, select the contrast setting in this TFT set based upon the Dmax density setting in the following table:

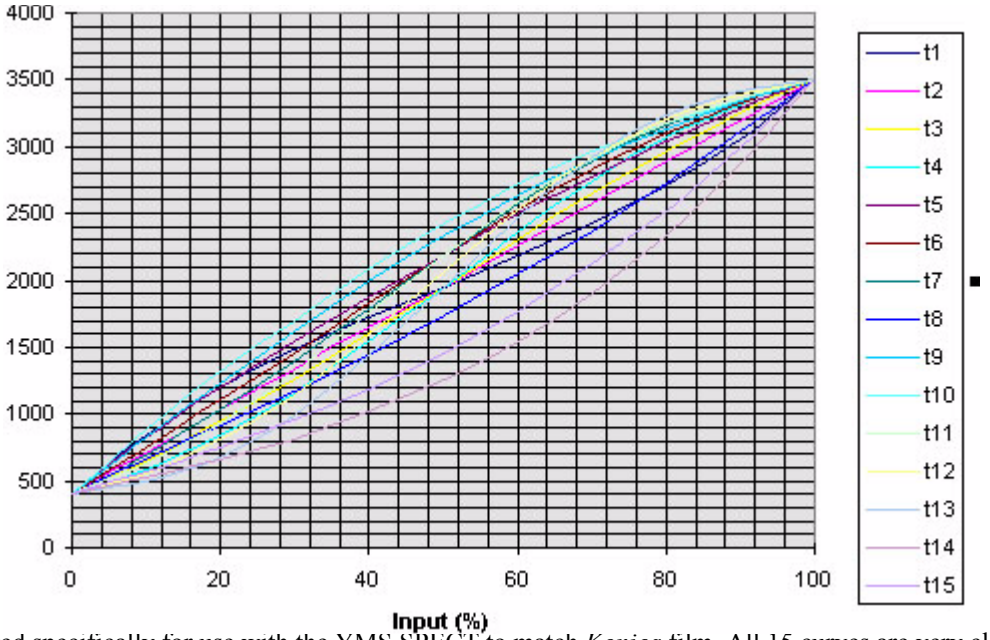
Dmax	Optimum Contrast Setting
1.7	1
1.8	2
1.9	3
2.0	4
2.1	5
2.2	6
2.3	7
2.4	8
2.5	9
2.6	10
2.7	11
2.8	12
2.9	13
3.0	14
3.1	15



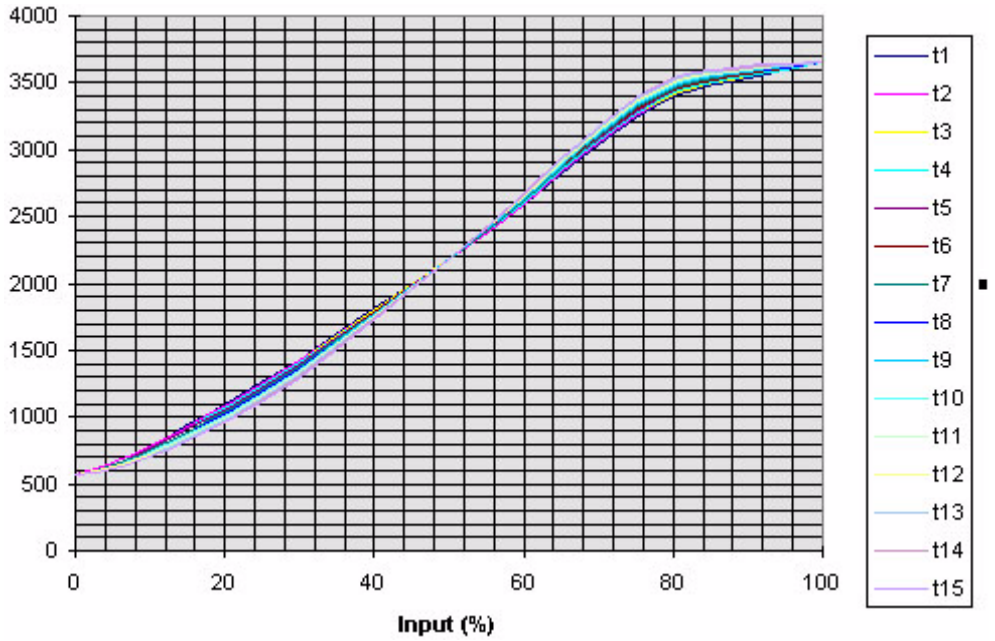
HYB60516: A hybrid (multi-MODALITY) TFT set that supports the diverse needs of several imaging MODALITIES, such as may be operating within a Lockheed (formerly Loral) network. These MODALITIES include *Fuji* Computed Radiography (CR), Digital Subtraction Angiography (DSA or DSI), C-Arm applications, CT, MR, Ultrasound and Nuclear Medicine. The following table defines how these 15 individual TFTs can best be applied to the needs of various imaging modalities supported by this TFT set.

HYB60516 Applications

Imaging MODALITY	Suitable Dmax Range	Preferred Dmax	Suitable TFTs (Contrast Settings)	Preferred TFT (Contrast Setting)
Fuji CR	2.7 - 3.0	3.0	2	2
DSI (DSA)	3.0	3.0	4-7	4
C-Arm	3.0	3.0	1-4	1
CT	3.0	3.0	2-7	2
MR	3.0	3.0	1-7	2
Ultrasound	2.5	2.5	3, 5-7, 11-15	9
Nuclear Medicine	2.3	2.3		12



MAXXUS: Created specifically for use with the YMS SPECT to match *Konica* film. All 15 curves are very close to a single curve. The MAXXUS TFT Set provides a set of tables suitable for certain nuclear medicine applications, specifically, to provide a relatively flat (low contrast) curve shape in the brightest portions of an image. This minimizes the visibility of soft tissue in a bone nuclear medicine image in which bone is printed as black on a white background. This is a relatively *tight* TFT set, offering limited variation with contrast setting.



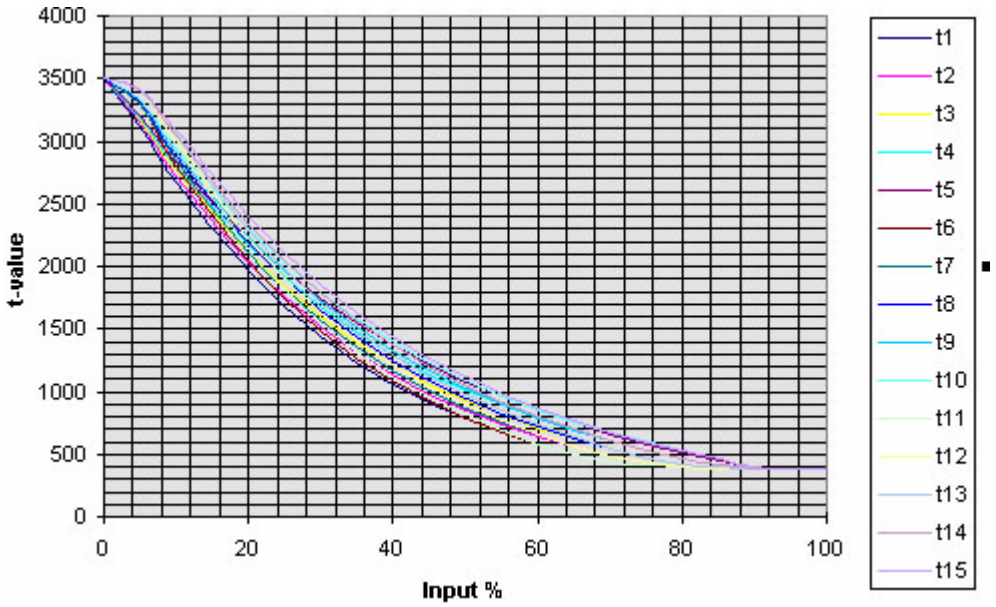
MSFDUP1: Designed to meet the density printing requirements of a TFT-based LASER IMAGER for Kodak that is used as the PRINTER in a DUPLICATOR for Kodak equipped with a MULTI-SHEET FEEDER. The 15 individual TFTs of this TFT set are designed to map 15 different Dmin and Dmax nominal input ranges (original film) into the full density range of the imager (approximately 0.2 to 3.1, for *Kodak DryView* Blue film).

Example: If the original film is a blue-based film from a LASER IMAGER, with a film Dmin of about 0.2 and a printed Dmax of about 3.0, a reasonable contrast setting for duplicating this film would be 11. However, since these input density ranges are approximate, other "similar" settings (6 in this example) could give optimal results from a user perspective. Refer to the following table of nominal contrast settings

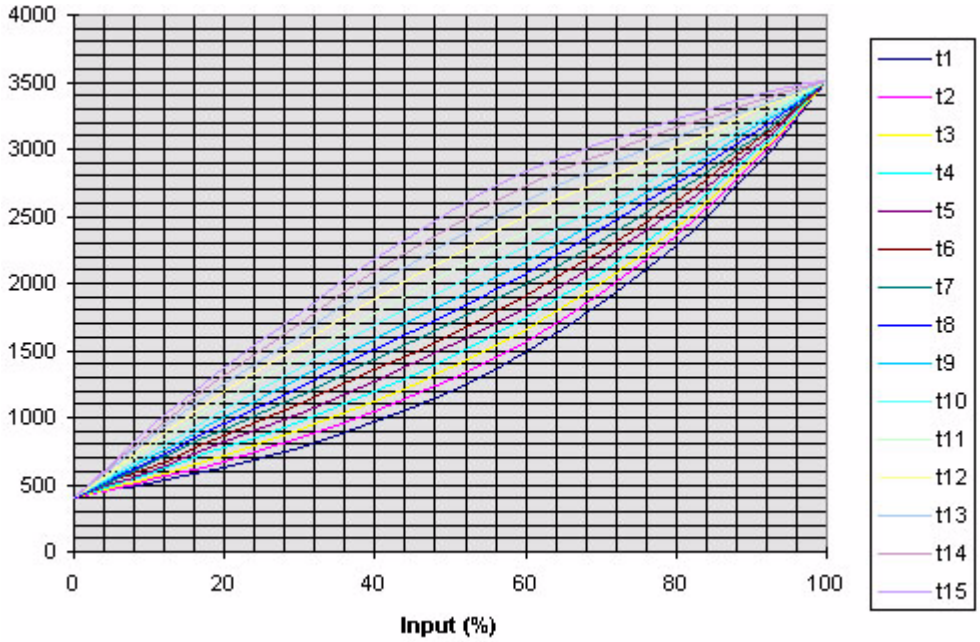
Nominal Contrast Settings*

Dmin	**Dmax ~ 3.0**	**Dmax ~ 3.2**	**Dmax ~ 3.4**	**Dmax ~3.6**	**Dmax ~ 3.8**
~ 0.05	C = 1	C = 2	C = 3	C = 4	C = 5
~ 0.12	C = 6	C = 7	C = 8	C = 9	C = 10
~ 0.20	C = 11	C = 12	C = 13	C = 14	C = 15

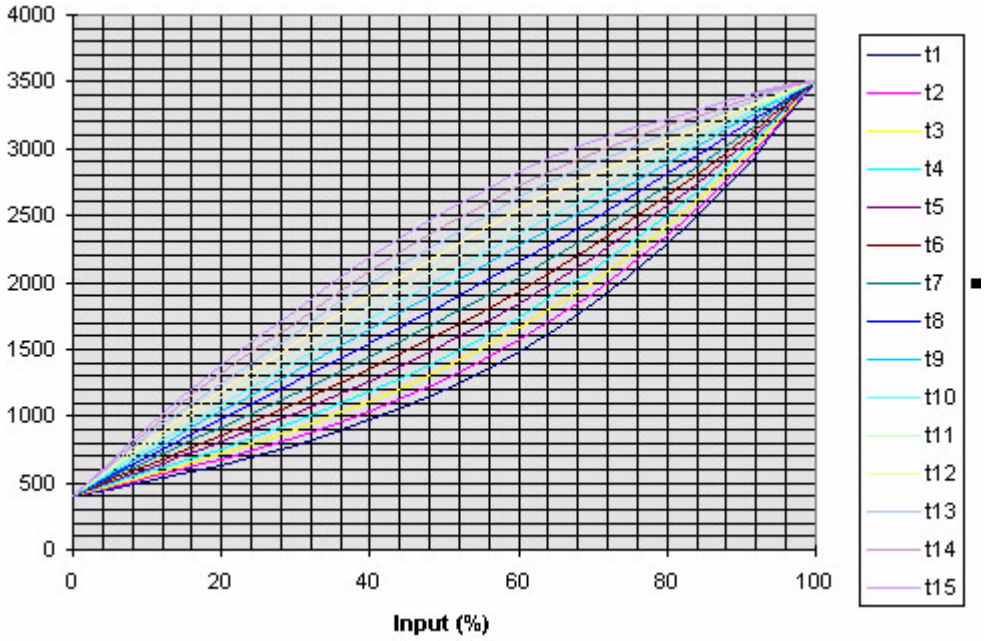
* For various original film density ranges.



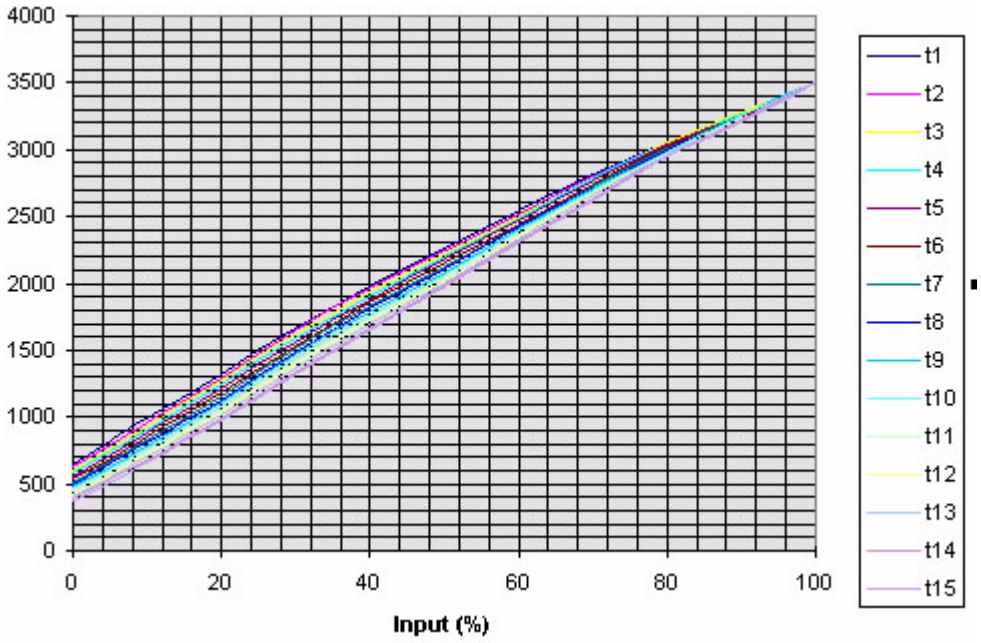
PMSB: Developed as a slight modification to the PMSV3K TFT Set that was previously developed for *Philips* Medical Systems. This set was created by adjusting the t-values within the PMSV3K TFT Set so that when using Contrast 9 of the PMSB TFT Set match, the densities print, as accurately as possible, the latest target densities requested by *Philips* Medical Systems. All 15 of these tables have essentially the same mid-tone contrast (slope), but have a wide variety of brightnesses with contrast setting 1 = the darkest image and contrast setting 15 = the brightest.



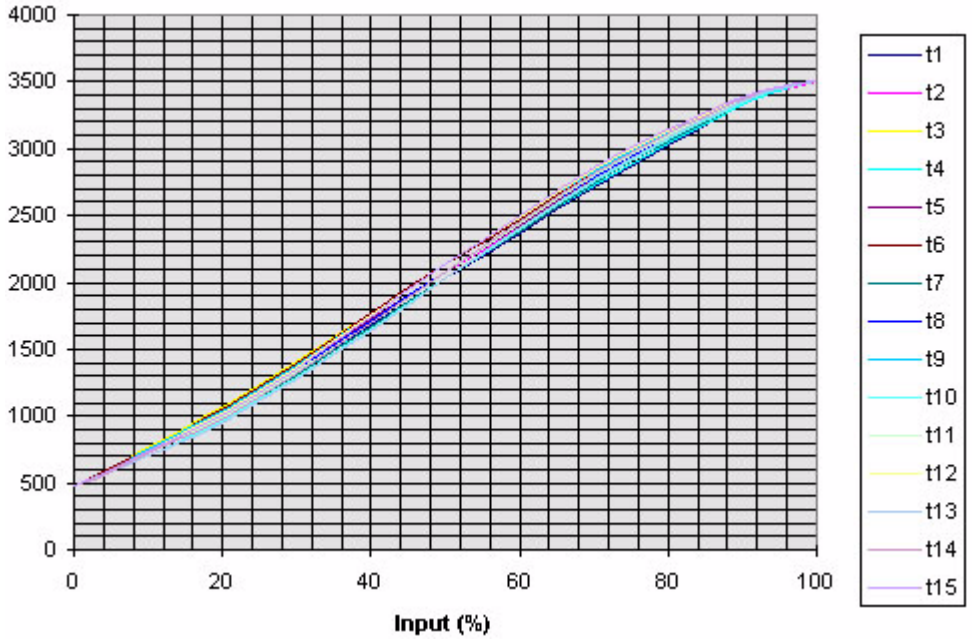
PMSV3K: A set of non-S-curve TFTs, with mid-tone density gradually decreasing as the TFT number (contrast setting) is increased. This set was originally requested by *Philips* Medical Systems who preferred saggy curve shapes to the S-shaped curves of VER693C0 and VER713C0. All 15 of these tables have essentially the same mid-tone contrast (slope), but have a wide variety of brightnesses with contrast setting 1 = the darkest image and contrast setting 15 = the brightest.



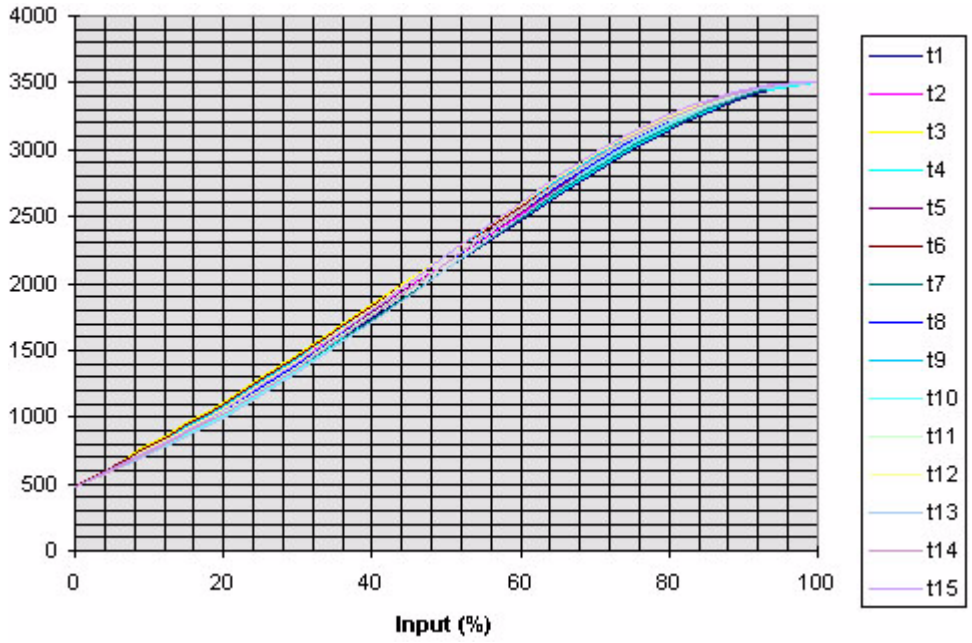
SFH301A4: Composed of 15 non-S-curve curves, designed specifically for the *Siemens Fluorospot* H system. The plots on the chart below show a shape that is approximately "linear in brightness," with the different minimum t-values corresponding to the different selectable Dmax values.



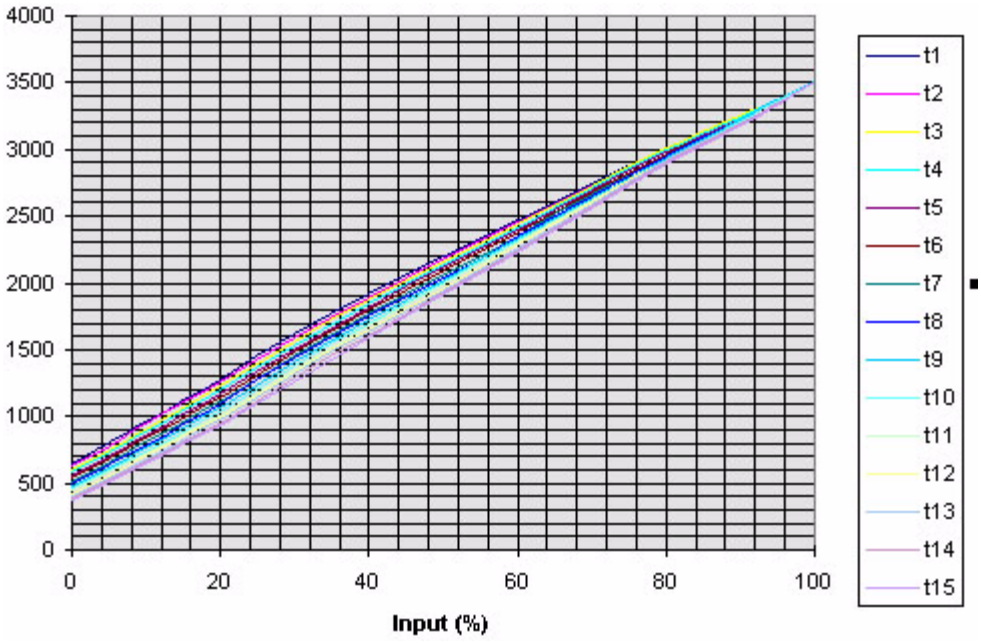
SIECT87: A set in which all 15 curves are very close to a single, Siemens-defined curve for CT. The following plots of this TFT Set show a shape which is close to a "linear in brightness" shape and quite similar to the slightly S-shaped middle TFTs of the VER693C0 TFT Set. But unlike the VER693C0 Set, this TFT Set is not designed to provide a significant range of variability to the user, but rather a small range of variability to allow a single predefined table to be matched as closely as possible.



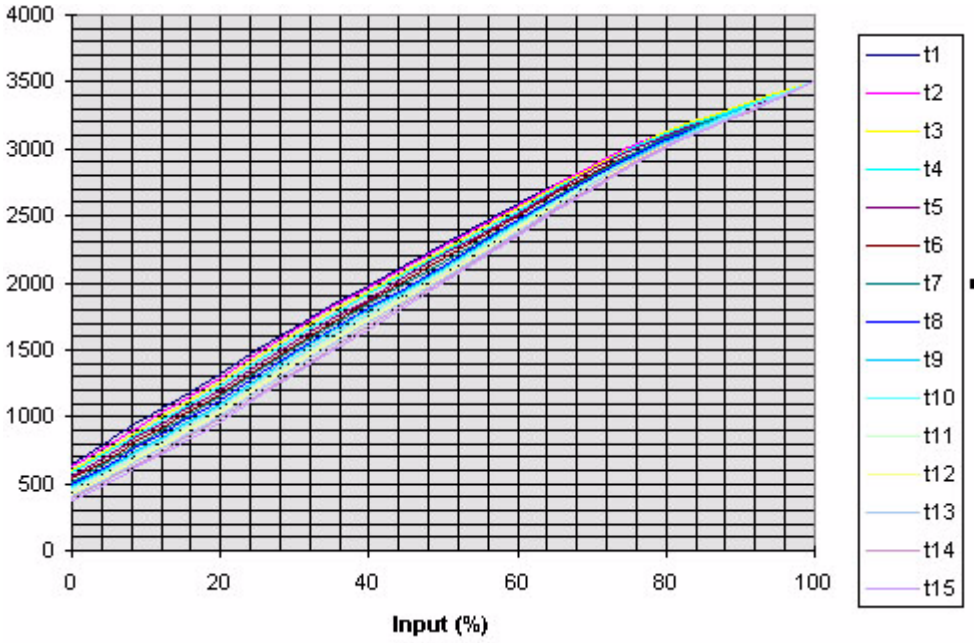
SIECT87B: A slight modification to the SIECT87 TFT Set, designed to match, as closely as possible, the Siemens requirements for CT.



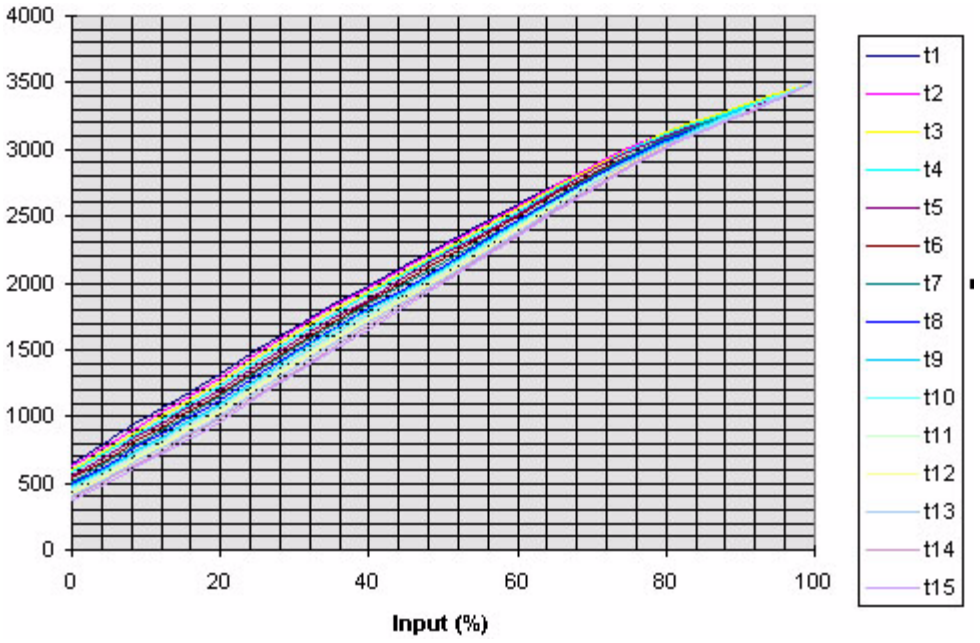
SIEFC969: Designed to satisfy the requirements of Siemens for use with the *Fluorospot* Compact MODALITY. The t-values in this TFT Set are similar to the values defined for the SFH301A4 TFT Set, but the SIEFC969 values have been adjusted to optimally meet the needs of the *Fluorscope* Compact. The t-value plots below show a shape that is approximately ”linear in brightness,” with the different minimum t-values corresponding to the different selectable Dmax values.



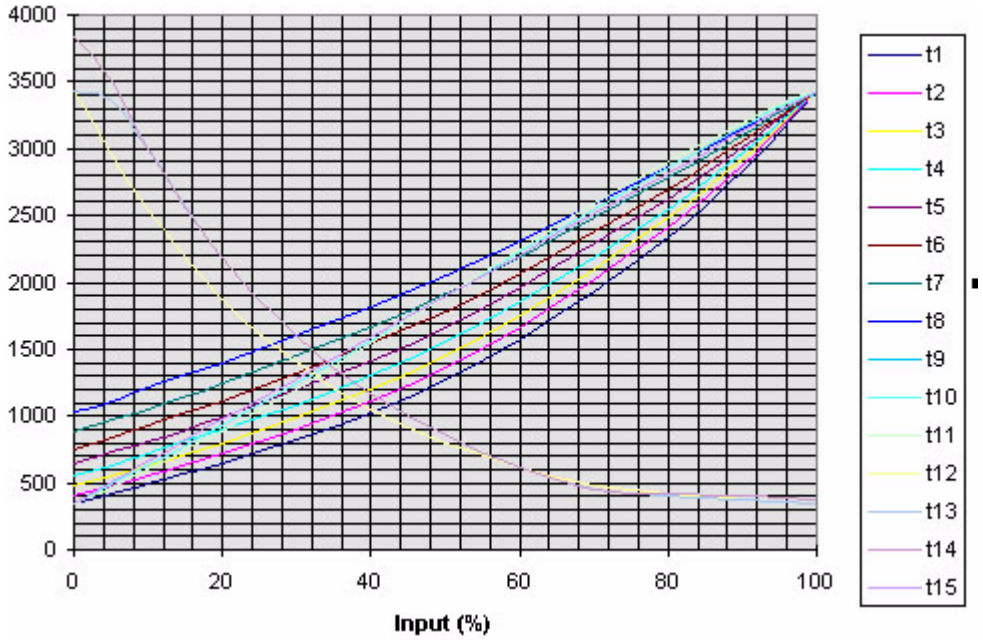
SIEFL87B: A slight modification to the SFH301A4 TFT Set, designed to match, as closely as possible, the Siemens requirements for *Fluorospot* DSA. The t-value plots below show a shape that is approximately ”linear in brightness,” with the different minimum t-values corresponding to the different selectable Dmax values.



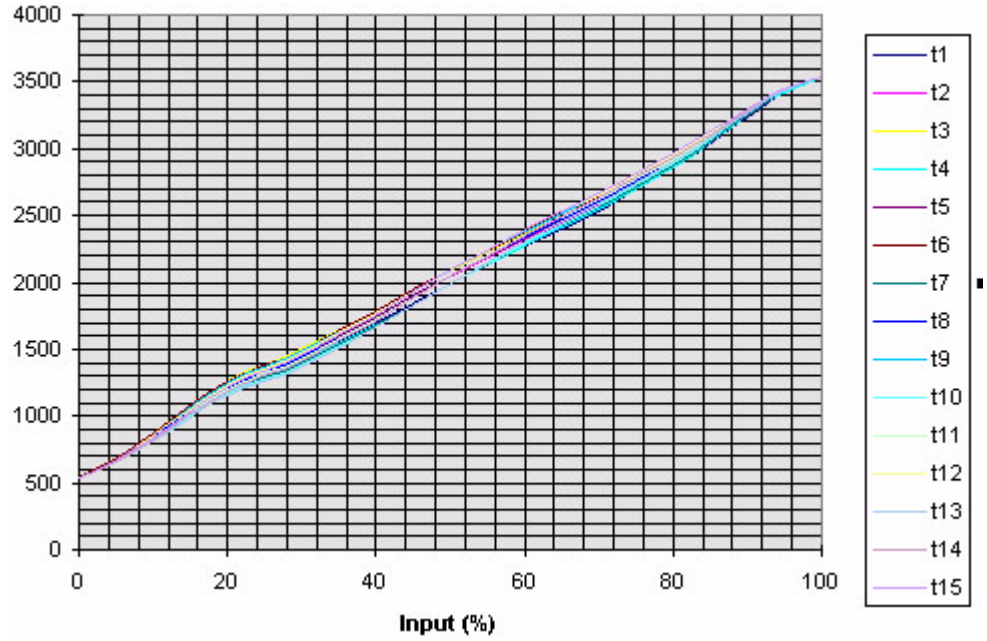
SIEFL87C: A slight modification to the SIEFL87B TFT Set, designed to match, as closely as possible, the latest Siemens requirements for the *Fluorospot* DSA.



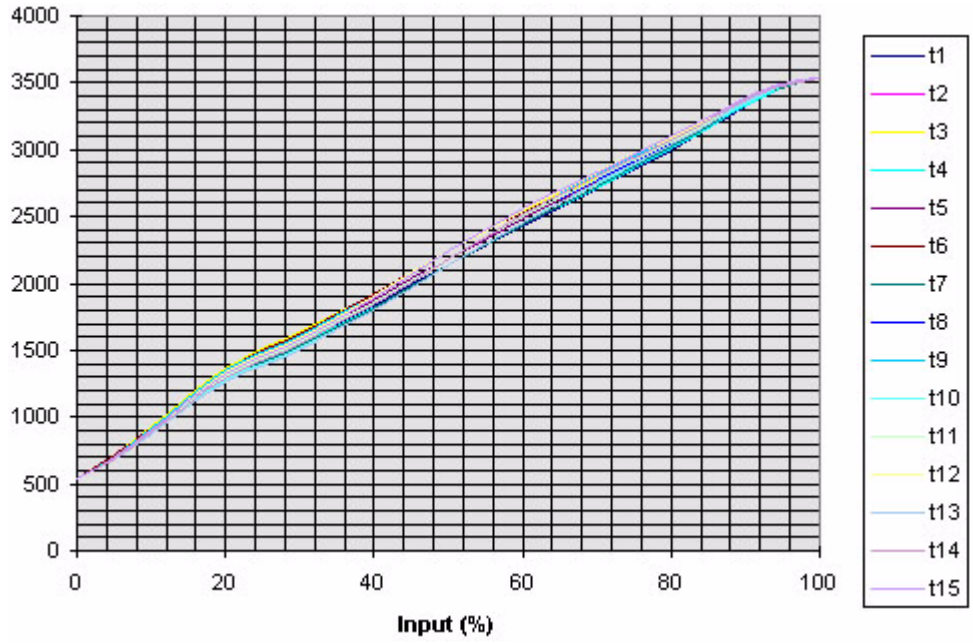
SIEFLTOP: A slight modification to the SIEWS87B TFT Set, designed to match, as closely as possible, the Siemens requirements for *Fluorospot* Top systems.



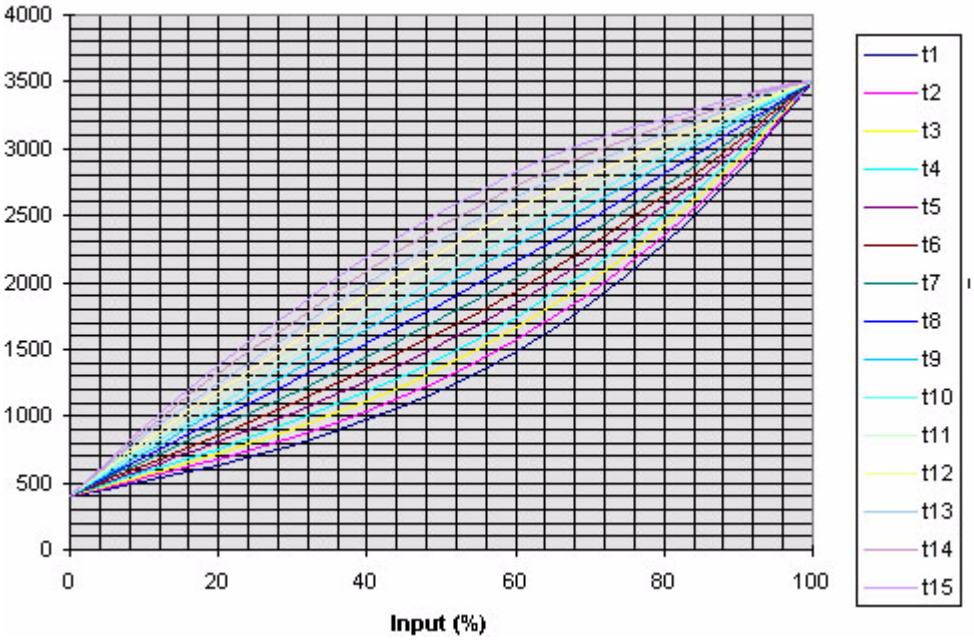
SIEMR87: A set in which all 15 curves are very close to a single, Siemens-defined curve for MR. The t-value plots in the chart below show a shape which is somewhat like a "linear in brightness" shape, but with more undulations than the slightly S-shaped middle TFTs of the VER693C0 TFT Set. As with the SIECT87 TFT Set, the SIEMR87 TFT Set is not designed to provide a significant range of variability to the user, but rather a small range of variability to allow a single predefined table to be matched as closely as possible.



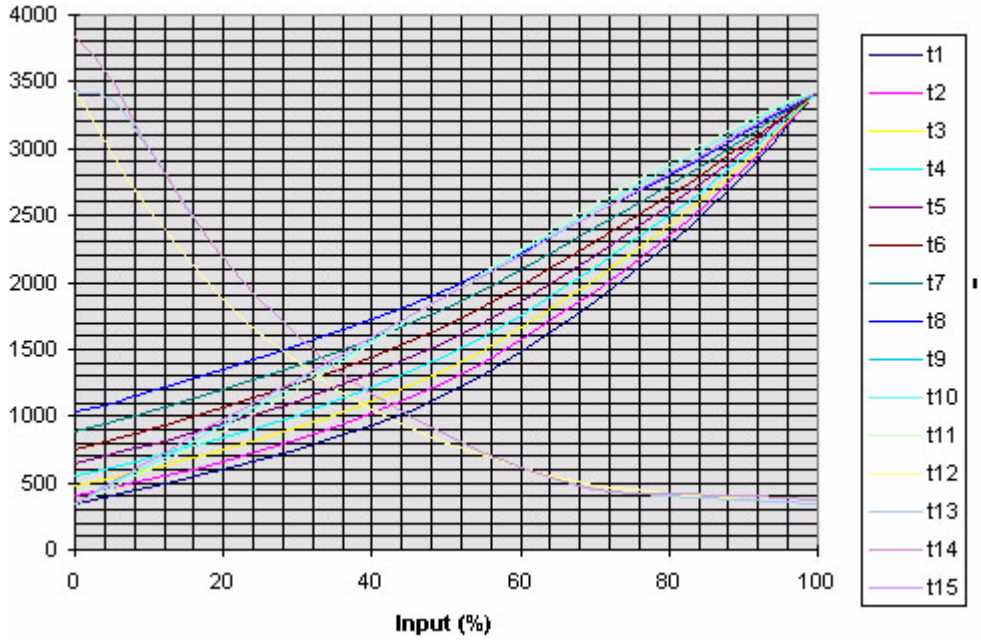
SIEMR87B: A slight modification to the SIEMR87 TFT Set, designed to match, as closely as possible, the Siemens requirements for MR.



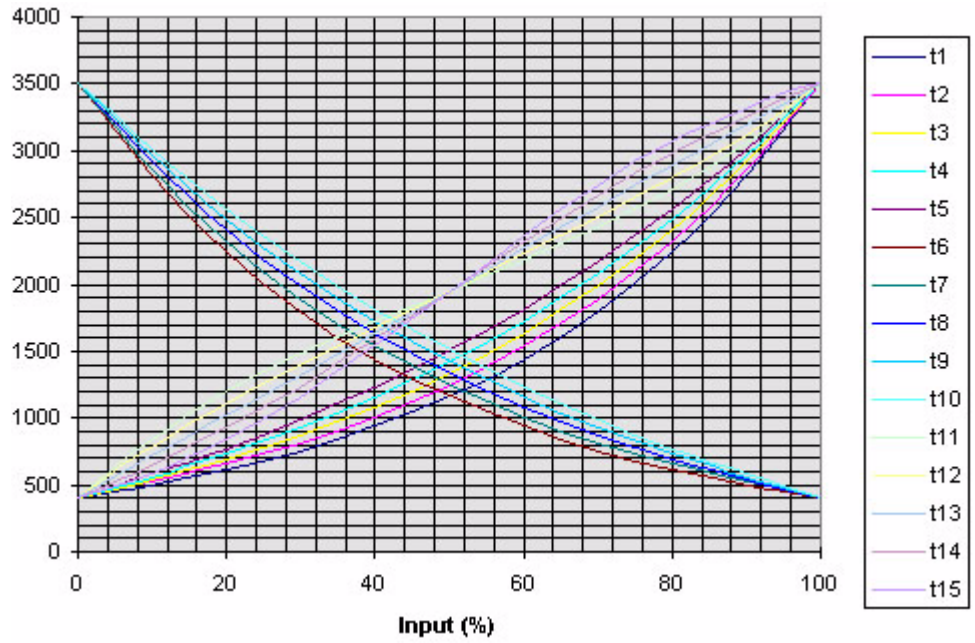
SIEPOLY: Equivalent to the PMSV3K TFT Set, designed to match, as closely as possible, the Siemens requirements for *Siemens Polytron*/8700 installations.



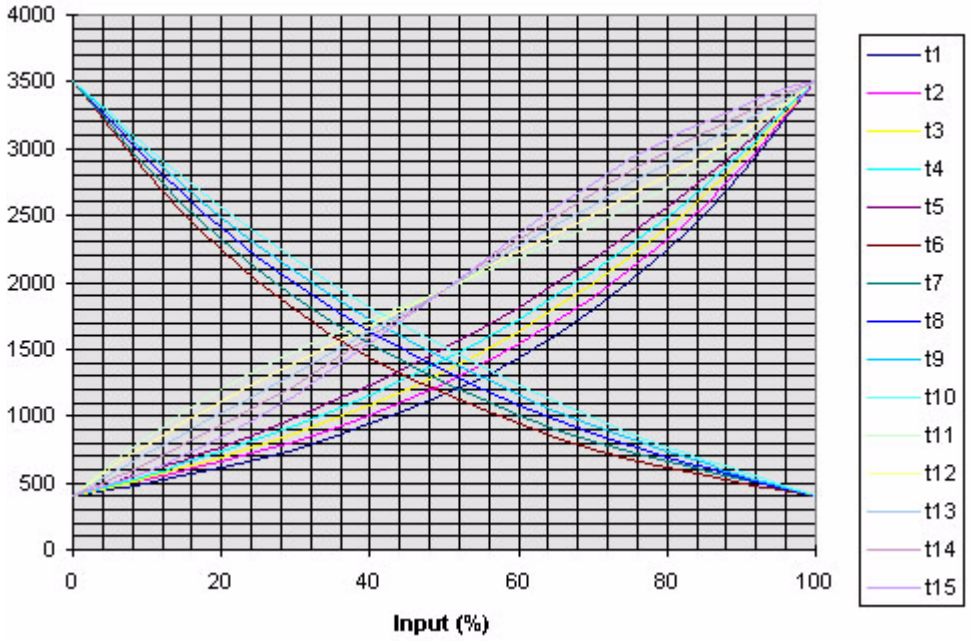
SIEWS87B: A slight modification to the WRKSTN2A TFT Set, designed to match, as closely as possible, the Siemens requirements for the *Sienet* Workstation.



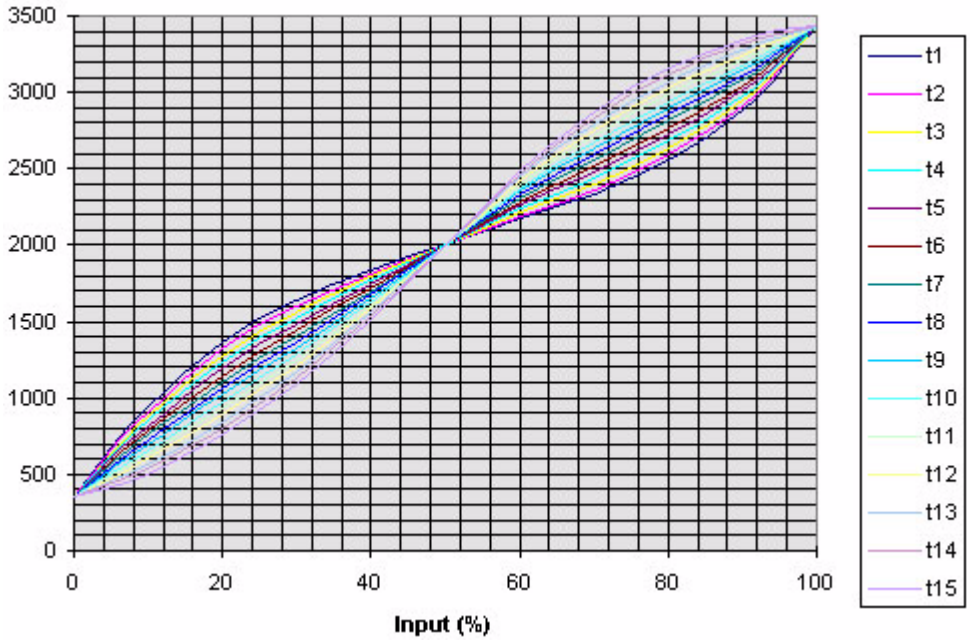
TLII: Created for use with the *Toshiba* Laser Imager Interface (TLII) for nuclear medicine applications. It provides several linear-in-density curves (5 with increasing density plus 5 with decreasing density). It also provides 5 approximately linear-in-brightness curves, similar to some of the VER693C0 curves, for an MR MODALITY (*Toshiba* Flexart). The combination of diverse curve shapes in this TFT Set, for different MODALITIES, makes it an example of a hybrid TFT Set.



VER693C0: A popular, general-purpose TFT set of S-shaped curves, widely used for CT, MR and certain other modalities. Curve 6 of this set is designed to be linear-in-perceived-brightness. Contrast settings below 6 give increased contrast (slope) near the endpoints and decreased "mid-tone" (near 50% of digital input) contrast. Contrast settings above 6 give decreased contrast near the endpoints and increased mid-tone contrast. The following plots of this TFT Set show that all 15 of the tables have essentially the same mid-tone brightness, with varying degrees of an S-shape contribution which gives the strongest end-points contrast (slope) to Table 1 and the strongest mid-tone contrast (slope) to Table 15.

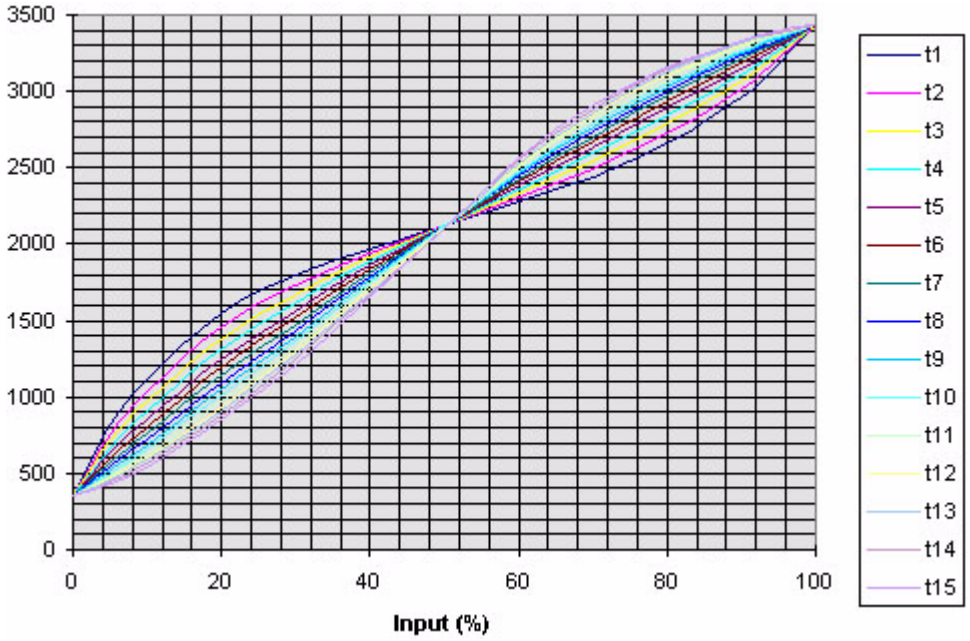


VER703C0: Created to provide a set of S-shaped curve choices that are intermediate-in-perceived- brightness, i.e., between those of VER693C0 TFT Set and those of VER713C0 TFT Set. All 15 of these tables have essentially the same mid-tone brightness, which is slightly brighter than the mid-tone brightness of the VER693C0 tables and slightly darker than the mid-tone brightness of the VER713C0 TFT Set. As with the VER693C0 and VER713C0 TFT Sets, there are varying degrees of an S-shape contribution which gives the strongest end-points contrast (slope) to Table 1 and the strongest mid-tone contrast (slope) to Table 15.

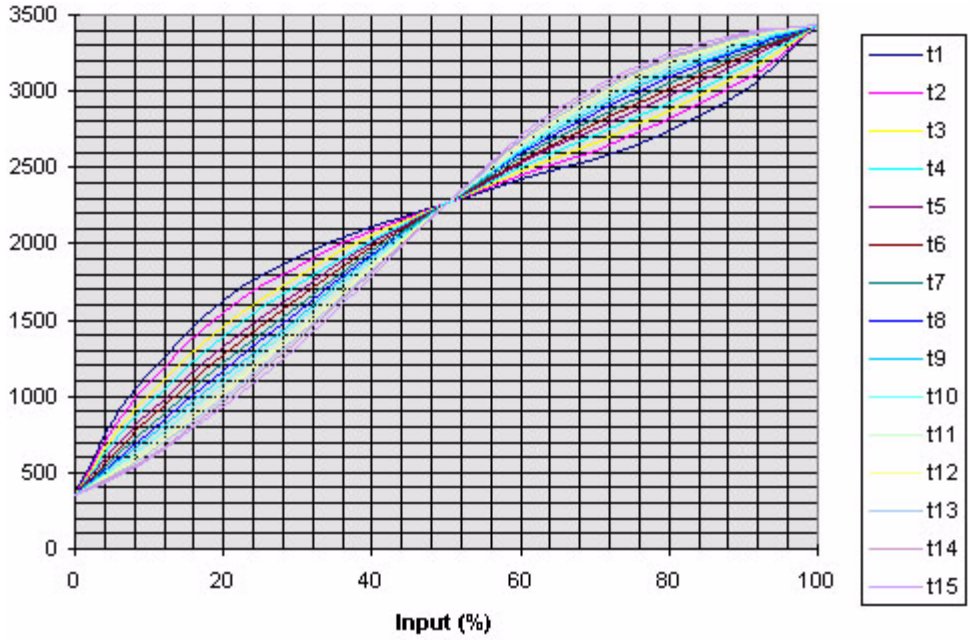


VER713C0: Nearly as popular as the VER693C0 Set, with a somewhat lower mid-tone density than the VER693C0 Set. This set is similar to the VER693C0 TFT Set, but with a slight increase in brightness (i.e., the VER713C0 TFT Set can be

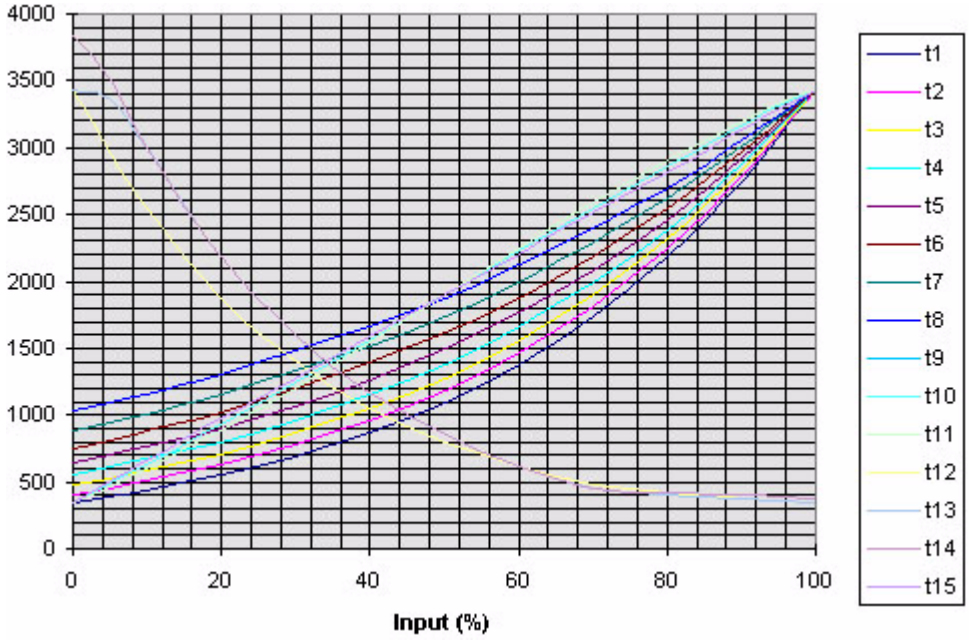
characterized as having slightly lower “mid-tone density” than the VER693C0 TFT Set). All 15 of these tables have essentially the same mid-tone brightness, which is noticeably brighter than the mid-tone brightness of the VER693C0 tables. As with the VER693C0 TFT Set, there are varying degrees of an S-shape contribution which gives the strongest end-points contrast (slope) to Table 1 and the strongest mid-tone contrast (slope) to Table 15.



VER723C0: Designed to offer another choice of curves, similar to the S-shaped curves of VER713C0, but at a brightness higher than VER713C0 (which, in turn, is brighter than VER703C0, which is brighter than VER693C0). This choice is needed at certain customer sites (e.g., at *GE* CT-I sites where higher brightness is desired for mid-brain gray/white matter and/or abdominal soft tissue).



WRKSTN2A: Designed for post-processing imaging workstations in which curves 1 through 8 are designed to produce linear in optical density results on film, for density settings of 3.2 through 1.8, respectively. Curves 9 through 11 are the same as VER693C0 curves 6 through 8. Curves 12 through 14 are designed for film digitizer applications. Curve 15 is the same as curve 9.



ULUT Set Selections for the 8300 LASER IMAGER

The following are the set choices available when using the ULUT set for 8300 LASER IMAGER applications.

GSDF6: Composed of 12 curves, all based on the DICOM Grayscale Standard Display Function, with parameters chosen to support the range of density (Dmax) settings available on the 8300 LASER IMAGER. The curves are designed so the contrast and density (Dmax) settings should be chosen according to the following table:

Recommended Contrast Settings

Maximum Density See Note 1.	Recommended Contrast Setting See Note 2.
2.0	1
2.1	2
2.2	3
2.3	4
2.4	5
2.5	6
2.6	7
2.7	8
2.9	9
3.1	10
3.3	11
3.5	12

1. As controlled by density setting.
2. For best conformance with Grayscale Standard Display Function.

GSDF6AA0: Composed of 12 curves, all based on the DICOM Grayscale Standard Display Function, applied to an 8300 LASER IMAGER printing at its highest density setting (Dmax = 3.5). All the curves in this ULUT set were designed based on an assumed film Dmin of 0.2 and an assumed light box luminance of 5500 cd/sq.m. The variable parameter in this family of curves is the assumed reflected ambient light for the different contrast settings. The following table shows the values used.

Assumed Reflected Ambient Light Values

Contrast Setting	Assumed Reflected Ambient Light (cd/sq.m)
1	5.5
2	11
3	16.5
4	22
5	27.5
6	33
7	38.5
8	44
9	49.5
10	55
11	60.5
12	66

GSDF6LL0: Composed of 12 curves, all based on the DICOM Grayscale Standard Display Function, applied to an 8300 LASER IMAGER printing at its highest density setting (Dmax = 3.5). All of the curves in this ULUT set were designed based on an assumed film Dmin of 0.2. In this family of curves (see the following table), the assumed light

box luminance was set to different values for the different contrast settings, and, at each contrast setting, the reflected ambient light was set to be 0.5% of the light box luminance of that setting.

Assumed Light Box Luminance Values

Contrast Setting	Assumed Light Box Luminance (cd/sq.m)
1	2000
2	2210
3	2442
4	2699
5	2982
6	3295
7	3641
8	4024
9	4447
10	4914
11	5430
12	6000

LORAD03: A moderately "tight" ULUT set, intended for printing *Lorad* digital mammography images using an 8300 LASER IMAGER in linear-in-transmittance 1/3 gamma mode. All of the curves of this ULUT set are close to each other and close to a single, central curve (curve 6), which was designed to provide printed densities that match as closely as possible a table of target densities desired by Lorad in order to match the density-vs-input characteristics of an *Agfa* printer. The table of densities (i.e., as measured on an *Agfa* film) is as follows:

Desired Densities vs. Step Numbers

Step Number	Desired Optical Density
1	3.65
2	2.67
3	2.17
4	1.82
5	1.54
6	1.31
7	1.13
8	0.97
9	0.84
10	0.70
11	0.59
12	0.49
13	0.41
14	0.32
15	0.25
16	0.20
17	0.16

The desired densities are converted into desired t-values (for the "central" curve 6) by the WARP15 program import function. In an actual 8610 print, t-values are mapped into the available density range of the 8300 LASER IMAGER (i.e., from approximately 0.20 film Dmin to approximately 3.5 using the highest density 8300 setting). A small range of brightness is provided in this ULUT set. Brightness increases as the contrast setting is increased from 1 through 12.

LORAD04: Similar to the LORAD03 ULUT Set that was created for Lorad, but with one difference. In the LORAD03 ULUT Set, curve 12 is the brightest of all 12 ULUTs in the relatively tight set. In the LORAD04 ULUT Set, curve 12 is linear (i.e., a straight line). As a result, in the LORAD04 ULUT Set, curve 12 (contrast setting 12) can be used on an 8300 LASER IMAGER that is set to linear-in-density gamma mode to print images with a linear-in-density overall response.

SIECT83C: A "tight" ULUT set, with all of its curves close to each other and close to a single, central curve that was designed to provide printed densities which match, as accurately as possible, a table of target densities defined by Siemens for their CT systems.

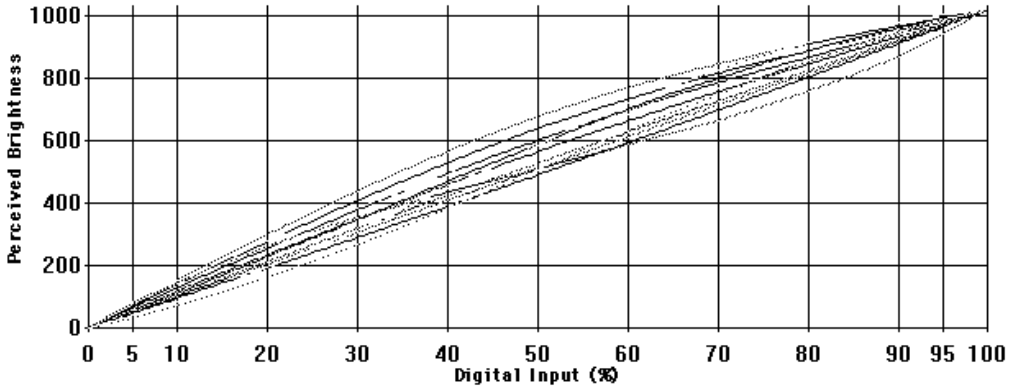
There is a very small variation range provided in this ULUT set. Curves 1, 4, 7, and 10 give a slightly lowered mid-tone brightness. Curves 2, 5, 8, and 11 give the nominal or target mid-tone brightness, and curves 3, 6, 9, and 12 give a slightly elevated mid-tone brightness. Within each of these three groups, the mid-tone contrast increases very slightly as the contrast setting is increased (e.g., from 2 to 5 to 8 to 11).

SIEMR83C: A "tight" ULUT set, with all of its curves close to each other and close to a single, central curve that was designed to provide printed densities which match, as accurately as possible, a table of target densities defined by Siemens for their MR systems.

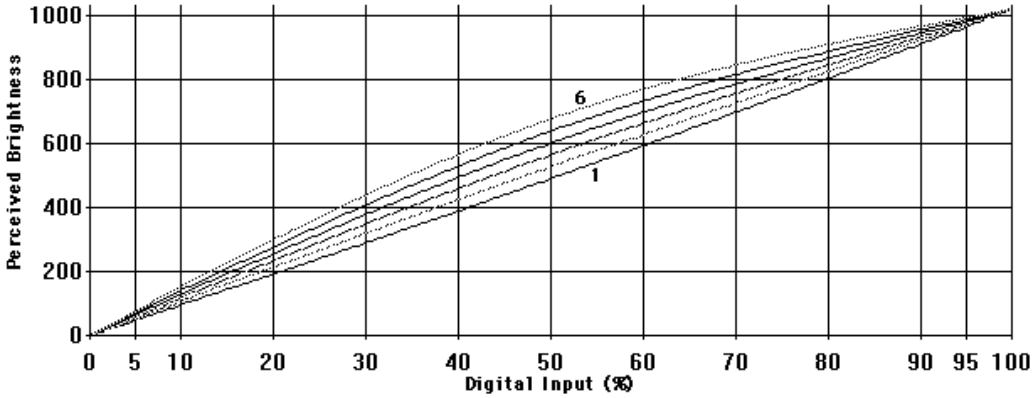
There is a very small variation range provided in this ULUT set. Curves 1, 4, 7, and 10 give a slightly lowered mid-tone brightness. Curves 2, 5, 8, and 11 give the nominal or target mid-tone brightness, and curves 3, 6, 9, and 12 give a slightly elevated mid-tone brightness. Within each of these three groups, the mid-tone contrast increases very slightly as the contrast setting is increased (e.g., from 2 to 5 to 8 to 11).

U1_109B: The original standard ULUT set for the 8300 LASER IMAGER. A recommended replacement for this ULUT set is the newer ULUT Set, U1_109S described below.

This ULUT Set has a diversity of curve shapes designed to accommodate the needs of a variety of imaging MODALITIES. Its 12 curves consist of 6 saggy curves that span a wide range of mid-tone brightnesses and 3 S-shaped curves at each of 2 mid-tone brightnesses. The saggy curves are often used for printing Ultrasound and nuclear medicine images, while the S-shaped curves are widely used for printing CT and MR images.

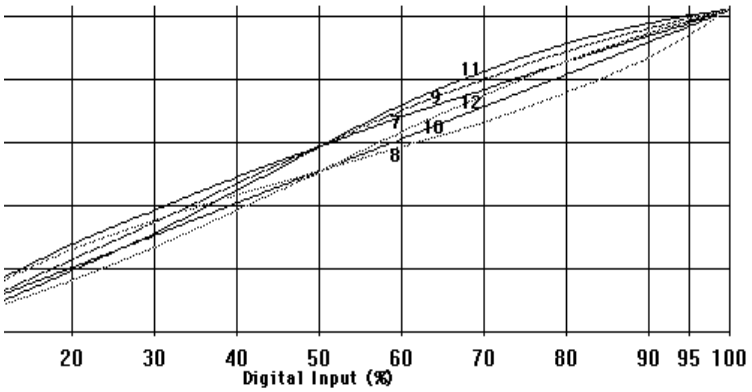


The number order of the curves (tables) in this set is designed so that when a contrast test is requested that yields 2 films with 3 columns of 2 images on each film, the first film shows the 6 images printed from upper left to lower right using the 6 saggy curves. On the second film, the left column shows the images printed using the first group of 3 S-curves and the right column shows the images printed using the second group of 3 S-curves. For these curves, overall image brightness increases as the contrast setting is increased from 1 to 6. These curves are often preferred over S-shaped curves by radiologists who are working with MODALITIES such as Ultrasound or nuclear medicine.



Curves 7, 9, and 11 of this ULUT set are a subset of the U713C0 ULUT Set (see the graph below). A contrast setting of 7 gives the lowest mid-tone contrast in this group of 3, while a contrast setting of 11 gives the highest mid-tone contrast. These 3 curves have a higher mid-tone brightness than curves 8, 10, and 12 of this ULUT set.

Curves 8, 10, and 12 of this ULUT set are a subset of the U693C0 ULUT Set. A contrast setting of 8 gives the lowest mid-tone contrast in this group of 3, while a contrast setting of 12 gives the highest mid-tone contrast. These 3 curves have a lower mid-tone brightness than curves 7, 9, and 11 of this ULUT set.



Because this ULUT set has such a variety of curve shapes, with no simple relationship between contrast setting and either mid-tone brightness or mid-tone contrast, this set may be useful primarily as a “finder” set, to help a user decide on some other ULUT set as a final choice, within which the curve shape varies in a more continuous, intuitive way as the contrast setting is changed (e.g., UPMSV3K, U693C0, or U713C0).

U1_109S: Like the U1_109B ULUT Set it replaces, this set has a diversity of curve shapes designed to accommodate the needs of a variety of imaging modalities. Its 12 curves consist of 6 saggy curves that span a wide range of mid-tone brightnesses, and 3 S-shaped curves at each of 2 mid-tone brightnesses. The saggy curves are often used for printing Ultrasound and nuclear medicine images, while the S-shaped curves are widely used for printing CT and MR images.

The number order of the curves (tables) in this set is designed so that when a contrast test is requested that yields 2 films with 3 columns of 2 images on each film, the first film shows the 6 images printed from upper left to lower right using the 6 saggy curves. On the second film, the left column of shows the images printed using the first group of 3 S-curves and the right column shows the images printed using the second group of 3 S-curves.

The U1_109S ULUT Set is a nearly identical replacement for the previously described U1_109B TFT Set. Whereas U1_109B had some tables that only reached 1020 instead of the full maximum scale value of 1023, all the tables of U1_109S do reach the maximum scale value. Therefore, printed densities can reach the lowest possible Dmin.

For these curves, overall image brightness increases as the contrast setting is increased from 1 to 6. These curves are often preferred over S-shaped curves by radiologists who are working with modalities such as ultrasound or nuclear medicine.

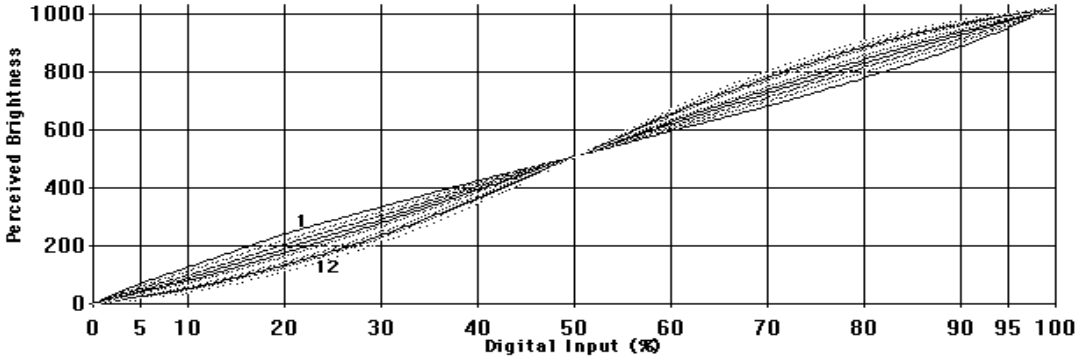
Curves 7, 9, and 11 of this set are a subset of the U713C0 ULUT Set. A contrast setting of 7 gives the lowest mid-tone contrast in this group of 3, while a contrast setting of 11 gives the highest mid-tone contrast. These 3 curves have a higher mid-tone brightness than curves 8, 10, and 12 of this ULUT set.

Curves 8, 10, and 12 of this set are a subset of the U693C0 ULUT Set. A contrast setting of 8 gives the lowest mid-tone contrast in this group of 3, while a contrast setting of 12 gives the highest mid-tone contrast. These 3 curves have a lower mid-tone brightness than curves 7, 9, and 11 of this ULUT set.

Because this ULUT set has such a variety of curve shapes, with no simple relationship between contrast setting and either mid-tone brightness or mid-tone contrast, this set may be primarily useful as a "finder" set, to help a user decide on some other ULUT set as a final choice, within which the curve shape varies in a more continuous, intuitive way as the contrast setting is changed (e.g., UPMSV3K, U693C0, or U713C0).

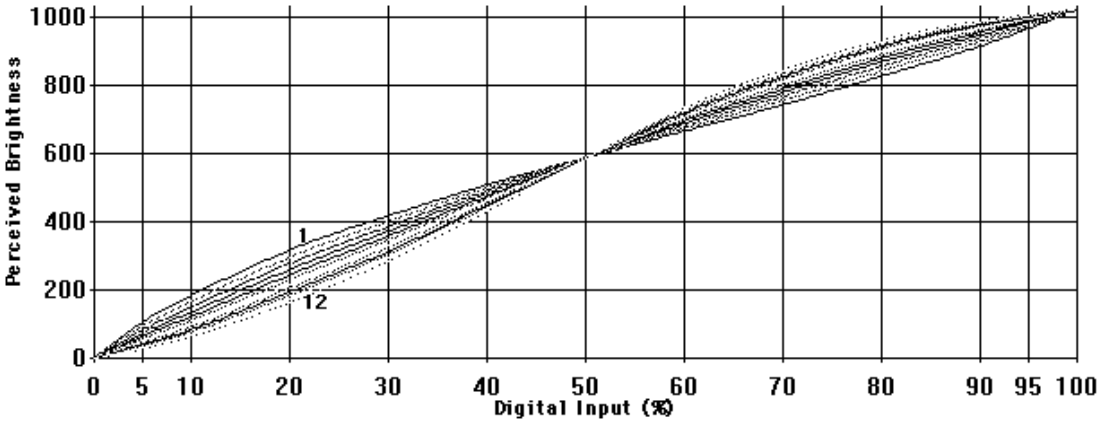
U693C0: Consists of "S-shaped" variations about a linear-in-perceived-brightness response. For this ULUT set, all curves intersect at the 50% point of maximum input, meaning that all contrast settings will give the same mid-tone brightness.

As the contrast setting is increased from 1 to 12, the mid-tone contrast (i.e., the contrast in the middle part of the grayscale) is increased, while the contrast in the very dark and very light parts of the grayscale is decreased. This ULUT set is very suitable for CT, MR, and C-Arm applications and is also sometimes useful for nuclear medicine applications.



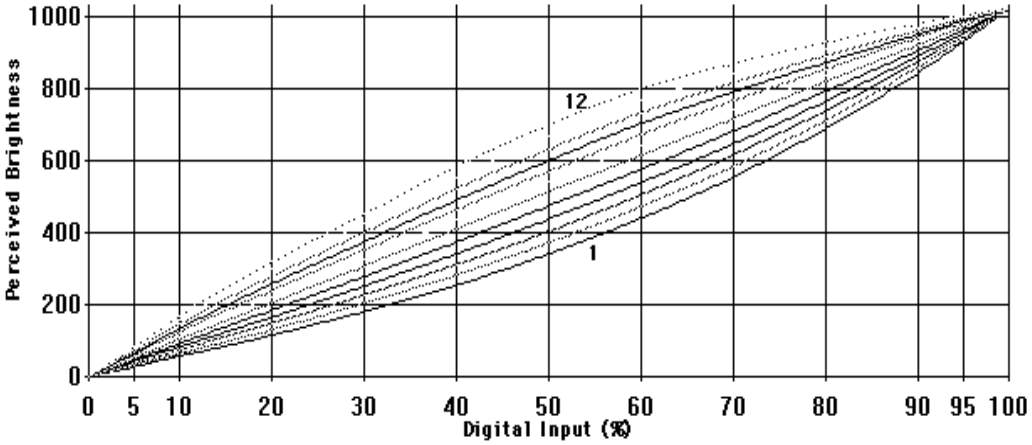
U713C0: Consists of S-shaped variations about a central curve which is somewhat brighter than the central linear-in-perceived-brightness curve of the U693C0 ULUT Set. As with the U693C0 ULUT Set, all curves of this set also intersect at the 50% point of maximum input, but the mid-tone brightness of the curves in this set is somewhat higher than the mid-tone brightness of the U693C0 ULUT Set.

As with the U693C0 ULUT Set, as the contrast setting is increased from 1 to 12, the mid-tone contrast (i.e., the contrast in the middle part of the grayscale) is increased, while the contrast in the very dark and very light parts of the grayscale is decreased. This ULUT set has rather wide applicability and is often used for ultrasound, nuclear medicine and DSA. It may also be used for other MODALITIES when a brightness greater than that from the U693C0 ULUT Set is desired.



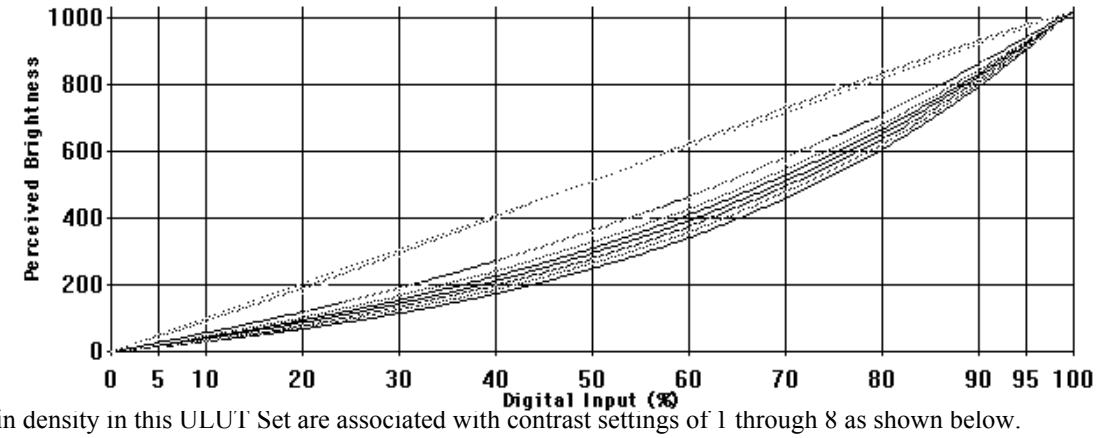
UPMSV3K: A relatively wide-ranging set of saggy curves. This set provides a wider choice of brightnesses than curves 1-6 of the U1_109S (or U1_109B) ULUT Set. This set is widely used in applications including ultrasound, nuclear medicine, and others where an S-shaped response curve is not desired.

For these curves, overall image brightness increases as the contrast setting is increased from 1 to 12. The brighter curves in this set are often preferred by radiologists who are working with modalities such as Ultrasound or nuclear medicine.

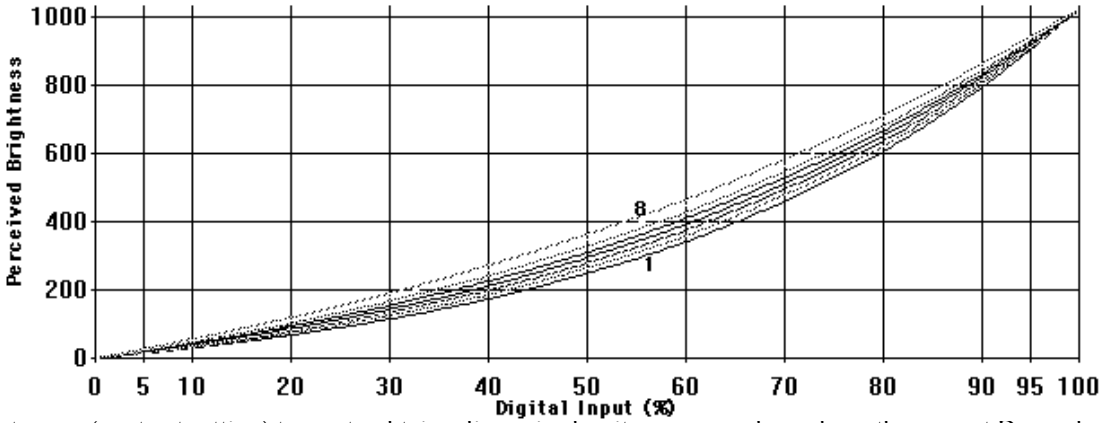


WKSTN83A: Most of the curves in this set are designed to give a linear-in-density response, while the remaining curves are designed to give an approximately linear-in-perceived-brightness response. This is assuming that in both cases, the subsequent gamma table processing in the imager is of the linear-in-transmittance 1/3 type, as is always the case in the 8300 LASER IMAGER.

Because of its linear-in-density curves, this ULUT set can be used, even on an 8300 LASER IMAGER, with certain MODALITIES or workstations (e.g., *Toshiba* nuclear medicine or some *Siemens* workstations) that are designed to work with an IMAGER that has a linear-in-density characteristic. Overall this ULUT set offers the choices shown below:



The linear in density in this ULUT Set are associated with contrast settings of 1 through 8 as shown below.



The best curve (contrast setting) to use to obtain a linear-in-density response depends on the current Dmax density setting, as indicated in the following table.

Preferred Pairings of Density and Contrast Settings (See Note 1

Density Setting	Contrast Setting for Linear-in-Density Response
15,16	1
13,14	2
11,12	3
9,10	4
7,8	5
5,6	6
3,4	7
1,2	8

1. When using linear-in-density curves from WKSTN83A on an 8300 LASER IMAGER operating in linear-in-transmittance 1/3 mode.

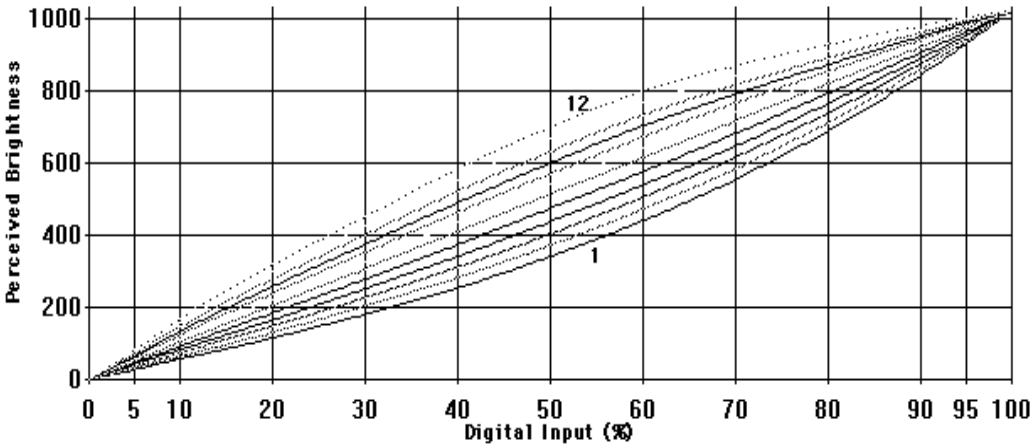
When you choose the contrast setting from this table, the density printed by an 8300 LASER IMAGER should decrease in approximately equal steps of Optical Density as the digital input is increased by a given step size.

The approximate linear-in-brightness curves in this ULUT set are obtained at Contrast settings of 9 through 12. As the Contrast setting is increased from 9 to 11, mid-tone contrast is increased slightly while the contrast in the near-black and near-white portions of the image is decreased slightly. Curve 12 is a repeat of curve 9. For further details on these U693C0-type curves, see the description of the U693C0 ULUT Set.

ULUT Set Selections for the 8600 and 8610 LASER IMAGER

The current MODALITY (Contrast Table) Groups, contained in the file "Luts86-G5B-1.txt," include the following 11 ULUT sets.

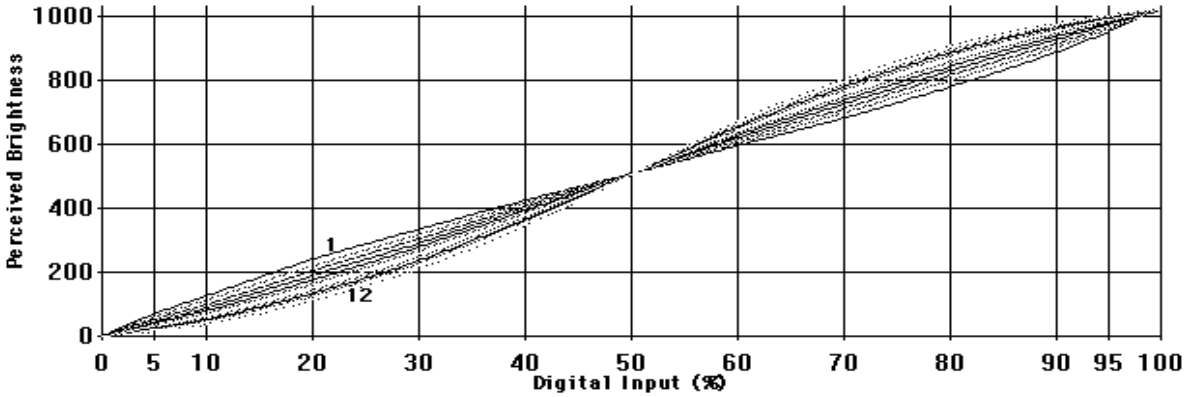
Group 1, **UPMSV3K**: A relatively wide-ranging set of saggy curves. This set provides a wider choice of brightnesses than curves 1-6 of the U1_109S (or U1_109B) ULUT Set. This set is widely used in applications including Ultrasound, nuclear medicine, and others where an S-shaped response curve is not desired.



For these curves, overall image brightness increases as the contrast setting is increased from 1 to 12. The brighter curves in this set are often preferred by radiologists who are working with modalities such as ultrasound or nuclear medicine.

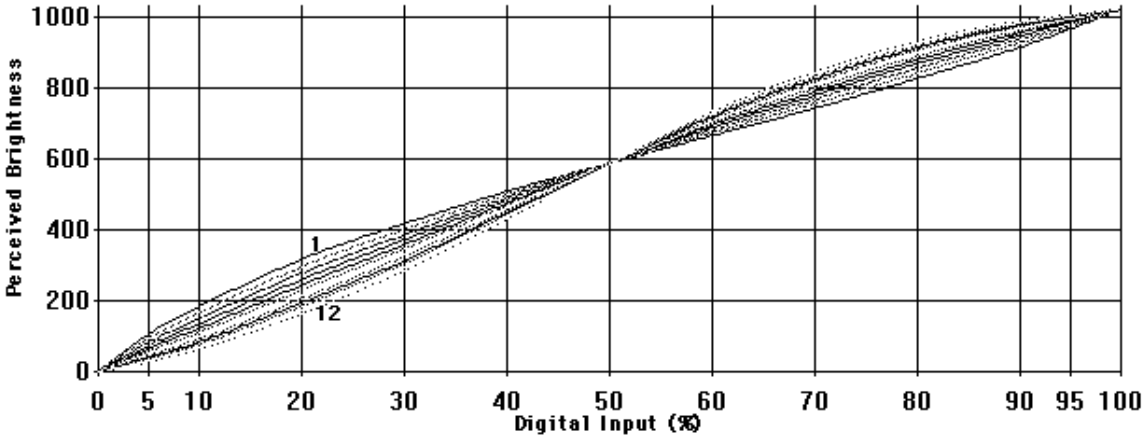
Group 2, U693C0: Consists of "S-shaped" variations about a linear-in-perceived-brightness response. For this ULUT set, all curves intersect at the 50% point of maximum input, meaning that all contrast settings will give the same mid-tone brightness.

As the contrast setting is increased from 1 to 12, the mid-tone contrast (i.e., the contrast in the middle part of the grayscale) is increased, while the contrast in the very dark and very light parts of the grayscale is decreased. This ULUT set is very suitable for CT, MR, and C-Arm applications and is also sometimes used for nuclear medicine.



Group 3, U713C0: Consists of S-shaped variations about a central curve which is somewhat brighter than the central linear-in-perceived-brightness curve of the U693C0 ULUT Set. As with the U693C0 ULUT Set, all curves of this set also intersect at the 50% point of maximum input, but the mid-tone brightness of the curves is somewhat higher than the mid-tone brightness of the U693C0 ULUT Set.

As with the U693C0 ULUT Set, as the contrast setting is increased from 1 to 12, the mid-tone contrast (i.e., the contrast in the middle part of the grayscale) is increased, while the contrast in the very dark and very light parts of the grayscale is decreased. This ULUT set has rather wide applicability and is often used for Ultrasound, nuclear medicine and DSA. It may also be used for other MODALITIES when a brightness greater than that from the U693C0 ULUT Set is desired.



Group 4, **GSDFP** - All the contrast tables of this set are based on the NEMA Grayscale Standard Display Function, parameterized with a D-min of 0.2, a lightbox luminance of 2000 cd/sq.m., and an ambient light fraction of 0.005. "Light fraction" is the amount of reflected ambient light coming off the film, expressed as a fraction of the lightbox luminance. For this ULUT Set, the parameter which varies as the contrast setting is changed is D-max. As the contrast setting is changed from 1 through 12, the D-max parameter goes through the following sequence of values: 2.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.9, 3.1, 3.3, 3.5.

Group 5, **GSDFLL0P** - All the contrast tables of this set are based on the NEMA Grayscale Standard Display Function, parameterized with a D-max of 3.5 and a D-min of 0.2. For this ULUT Set, the parameter which varies as the contrast setting is changed is the measured luminance of the lightbox in cd/sq.m. As the contrast setting is changed from 1 through 12, the luminance is varied through the following sequence of values: 2000, 2210, 2442, 2699, 2982, 3295, 3641, 4024, 4447, 4914, 5430, 6000 cd/sq.m., respectively.

Group 6, **GSDFAA0P** - All the contrast tables of this set are based on the NEMA Grayscale Standard Display Function, parameterized with a D-max of 3.5, a D-min of 0.2, and a lightbox luminance of 5500 cd/sq.m. For this ULUT Set, the parameter which varies as the contrast setting is changed is the ambient light fraction, i.e., the amount of reflected ambient light coming off the film, expressed as a fraction of the lightbox luminance. As the contrast setting is changed from 1 through 12, the ambient light fraction parameter goes through the following sequence of values: .001, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012.

Groups 7 through 11 - These include the UPMS3VK set.

Section 9: Completing the Installation

Introduction

This section includes procedures for installing a:

- *Kodak* LINK MEDICAL IMAGE MANAGER 200 (MIM 200)
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 (MIM 100)
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)

The procedures include:

- ❒ Saving the setup
- ❒ Checking MIM basic functions
- ❒ Training the customer
- ❒ Sending service feedback through SCAN

Final Procedures

[1] After setting up the SYSTEM, save the setup on a DISKETTE and store it in the FLOPPY DRIVE of the MIM.

[2] From the "MIM Service Application," make some test images: select **Diagnostics>System**.

[3] If necessary for this site, use the KEYPAD or Autofilming Link to store some clinical images.

[4] Make some prints to the destination and check the image quality.

[5] For PRINT SERVERS: print a grayscale test image.

[6] Set the MIM for Remote Service. See Section 2, Tools.

[7] Have the TSC check that the MODEM operates correctly.

[8] Provide the TSC with the MODEM number.

[9] For a MIM 100 and MIM 200 with a TOUCHSCREEN KEYPAD, do the Customer Profile. See the User Guide for the MIM.

Note

For each interface for the MIM, insert the User Guide for the interface in the site User Guide. Each interface has a section (e.g., KEYPAD). Use the tab dividers in the binder for the User Guide.

[10] Enable or disable the Privacy feature according to the customer's request and verify operation of the Privacy functions.

[11] Train the customer.

[12] For an unqualified MODALITY **only**, send the FILM MAILER (Mod 1) with test films enclosed.

[13] Provide feedback for your service time.

Training the Operator and Key Operator

General

The FE installing the MIM must instruct the customer's operators, key operator and, if the Privacy Feature is used, the customer's Security Administrator. Use the attached "Proficiency Checklist" to check that all necessary topics are reviewed with the customer.

Objectives

At the end of the first 4 Modules, the Operator should be able to do the following:

- Describe a MIM and some of its benefits and features.
- Identify components of the MIM.
- Energize the MIM, start and shut down the software application, and de-energize the MIM.
- Operate the KEYPAD.
- Understand when to use the main screens of the KEYPAD.
- Select a profile.
- Change imaging options.
- Store and make images.
- Do image transfer.
- Make or edit a profile.

At the end of the first 6 Modules, the Key Operator should be able to do all of the Operator tasks and the following:

- Adjust Tone Scaling.
- Maintain the MIM.
- Make a back up of the SYSTEM setup.
- Set the SYSTEM time.
- Troubleshoot simple problems and ask for service, if necessary.
- Clean the KEYPAD and FILTER.

Training Modules

The training time is:

- Operator - 60 minutes
- Key Operator - 90 minutes

Module	Duration	Key/Basic Operator
1. Overview: • Overview of the User Guide – Chapter Layout – Appendices • What is the MIM? – Introducing the MIM – Benefits and Features • Components – SYSTEM Setup – COMPUTER – KEYPAD – FOOTSWITCH or MINI KEYPAD – BULKHEAD – POWER SWITCH and CORD – Power On LED – FAN	5 minutes	Operator / Key Operator
2. Basic Operations • Turning on the MIM • Shutting Down the MIM • Using the KEYPAD • Privacy Feature - UserName and Password, functions protected by the Privacy Feature • Selecting and Entering Information • Overview of the Main Screens • Setting SYSTEM Preferences	20 minutes	Operator / Key Operator
3. Working with Images: • Choosing a Profile • Adjusting Imaging Options • Storing Images • Deleting Images and Pages • Printing the Page • Managing Image Transfer	25 minutes	Operator / Key Operator

Module	Duration	Key/Basic Operator
4. Creating and Managing Profiles: • Understanding Profiles • Planning Profiles • Viewing Profiles • Creating Profiles • Editing Profiles • Renaming Profiles • Deleting Profiles	10 minutes	Operator / Key Operator
5. Tone Scaling: • Overview • Tone Scaling Options • Selecting Tone Scaling Options • Adjusting Tone Scaling Options	15 minutes	Key Operator
6. Maintaining the MIM • Backing Up the SYSTEM Setup • Setting the SYSTEM Time • Troubleshooting – Viewing SYSTEM Information – Viewing Error Logs – Sending Test Images • Care and Maintenance – Cleaning the KEYPAD – Removing and cleaning the FILTER	15 minutes	Key Operator

Operator Training Checklist for the MIM

Overview	
❒	Identify Components

Basic Operations	
❒	Turn On/Shut Down
❒	Privacy Feature - Username and Password
❒	Select and Enter Information using the KEYPAD
❒	Use the Screens: Acquisition, Main, Imaging Options, and Manage Profiles
❒	Set SYSTEM Preferences

Working with Images	
❒	Choose a profile
❒	Adjust imaging options
❒	Store images
❒	Delete images and pages
❒	Print the page
❒	Manage image transfer

Creating and Managing Profiles	
❒	Plan the profile
❒	View the profile
❒	Create the profile
❒	Edit and Rename the profile
❒	Delete the profile

Tone Scaling- Key Operator	
❒	Tone Scaling options
❒	Select the Tone Scaling option
❒	Adjust the Tone Scaling option

Maintaining the MIM - Key Operator	
❒	Make a Back Up of the SYSTEM Setup
❒	Set the SYSTEM time
❒	View the SYSTEM information and error logs
❒	Send a test image
❒	Clean the KEYPAD
❒	Clean the FILTER

Signatures	
Technologist:	Date:
Apps. Con.	Date:

Training the Security Administrator

If the customer uses the privacy feature added to MIM products in V_6.0 and above, the customer must appoint a security administrator who is responsible for setting up user accounts for operators and key operators.

Training Outline:

- Enabling the privacy feature
- Accessing the “Security Administrator Console”
- Entering “System Settings”
  - “Password Rules”
  - “Login Rules”
  - “Privacy Warning Notice”
- Entering Device Information
- Adding users
- Editing user information
- Changing the Security Administrator password
- Logging off the “Security Administrator Console”
- Enabling/disabling Kodak Service Access
- Backing up the MIM configuration after changing the Security Administrator password or Operator passwords.

Note

Setting up user accounts and training key operators on the log in procedures is the responsibility of the Security Administrator. Leave Publication 8E9002 SECURITY AND PRIVACY FEATURES with the Security Administrator. This manual serves as training reference and detailed user guide for the privacy features.

Mod 1 FILM MAILER for Unqualified MODALITIES

The Mod 1 FILM MAILER is a pre-paid, addressed, express mailer for use when servicing the MIM 100 or the MIM 200 for an unqualified MODALITY.

Important

Include the following items in the Mod 1 FILM MAILER:

- 2 clinical images from the MODALITY that you have printed using the MIM.
- One test print from the PRINTER.
- The “MODALITY Parameter Worksheet,” with any changes documented.

Providing Service Feedback

SCAN Feedback

Refer to the Service Reporting Guide to find the proper feedback codes for the tasks you completed during the MIM installation. Use the codes in Table 9–1 to complete the feedback.

Use the codes in to complete service feedback.

- Send the installation time using the XN code.
- Send the troubleshooting time using the RAM code.

Service Codes

Table 9–1 MIM Product Service Codes

Product	Group Code	Service Code	Notes
MIM 200	TBD	1539	Serialized Mainframe
MIM 100	2551	3433	Serialized Mainframe
25 PS		3754	Serialized Mainframe
NETWORK INTERFACE CARD		1547	Used for 160 LASER IMAGER
VIDEO 150 INPUT PACKAGE		3467	NSA for MIM 100
VIDEO 150LC INPUT PACKAGE		4399	SA for MIM 100, NSA for MIM 200
VIDEO 60 INPUT PACKAGE		3743	SA for MIM 200
DIGITAL INPUT PACKAGE		3468	SA for MIM
MIM OPTICAL INTERFACE		3469	SA for MIM 200
COPCIL INTERFACE		3469	SA for MIM 200 and 25 PS
FOPCIL INTERFACE		3469	SA for MIM 200 and 25 PS
COMMON PROTOCOL OPTICAL INTERFACE		3746	NSA for 1120 AND 2180 LASER PRINTERS
NETWORK ISOLATION BOARD		1532	SA for MIM 200 in Western Europe

Section 10: Conversions

Converting Optical Interface to Fiber Optic Interface for MIM 200

Important

This conversion is only supported on the MIM 200 on the 2.4 GHz and 1 GHz enclosures.

[1] From the “MIM Service Application” window, select “Configure/Destination.” The “Installed Destination Window” displays.

[2] From the “Installed Destination” window, highlight the KELP 2180 or KELP 1120 destination and select “Delete.”

Note

The 2180 or 1120 must be removed as a destination from any referenced profiles before it can be deleted.

[3] Exit the “MIM Service Application.”

[4] De-energize the MIM.

Warning

Dangerous Voltage.

[5] Disconnect the main power for the MIM.

[6] Remove the side COVER for the MIM.

[7] Disconnect the cable to the OPTICAL INTERFACE BOARD.

[8] Remove the existing OPTICAL INTERFACE BOARD.

[9] Install the FOPCIL BOARD into:

(a) Slot 7 in the MIM 200, 1 GHz

(b) Slot 7 in the MIM 200, 2.4 GHz

[10] Connect FIBER OPTIC CABLES as indicated in Figure 3–34 on Page 3–40.

[11] Replace the COVER for the MIM.

[12] Energize the MIM.

[13] At the “MIM Service Application” window, select “Configure/Destination.” The “Installed Destination” window displays.

[14] Configure the MIM for the new LASER PRINTER by completing the following procedures:

Section 5 - “Setting up a Printer”

Section 6 - “Configuring a Print Server,” “Setting up the Destination”

Section 8 - “Obtaining Optimum Images”

Section 9 - “Completing the Installation”

Note

A 30 day warranty ONLY is included with the new FIBER OPTIC BOARD and the MIM.

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Section 11: Troubleshooting

Introduction

This section provides instructions for troubleshooting the:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200)
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 (MIM 100)
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)

Troubleshooting includes:

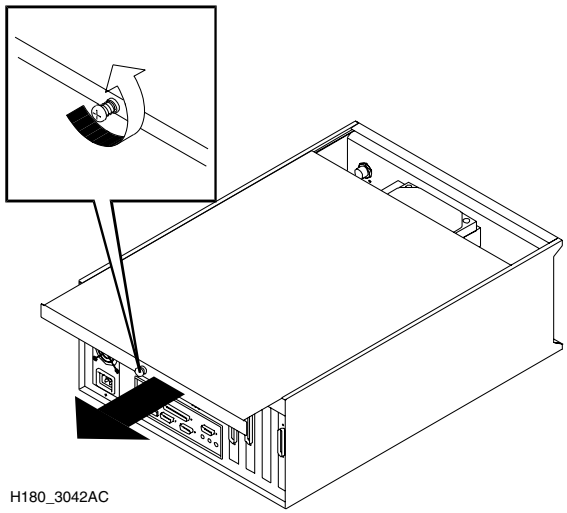
- ❒ Identification and location of field replaceable parts inside the MIM 100 and MIM 200 1.2 GHz enclosure.
- ❒ Procedures for using the “MIM Service Application” to run diagnostics
- ❒ Instructions for using the Activity History Log, Error History Log, and Console Log
- ❒ Samples of logs
- ❒ Procedures for using *pcAnywhere* REMOTE CONTROL SOFTWARE to run diagnostics
- ❒ Information on Power-On Self Test (beep codes, power-on problems)
- ❒ Instructions for troubleshooting the Common Protocol Optical Interface

Replacing the MIM HARD DRIVE, CD ROM DRIVE, or FLOPPY DRIVE

ESD
Possible damage from electrostatic discharge.

The parts inside the MIM are sensitive to damage from electrostatic discharge. Use proper grounding equipment during all service procedures.

[1] Loosen the screw securing the MIM COVER and it as shown.



[2] If removing the HARD DRIVE only, remove the 4 SCREWS securing the HARD DRIVE to the DRIVE BAY. If removing the CD ROM DRIVE or FLOPPY DRIVE, remove all 6 SCREWS.

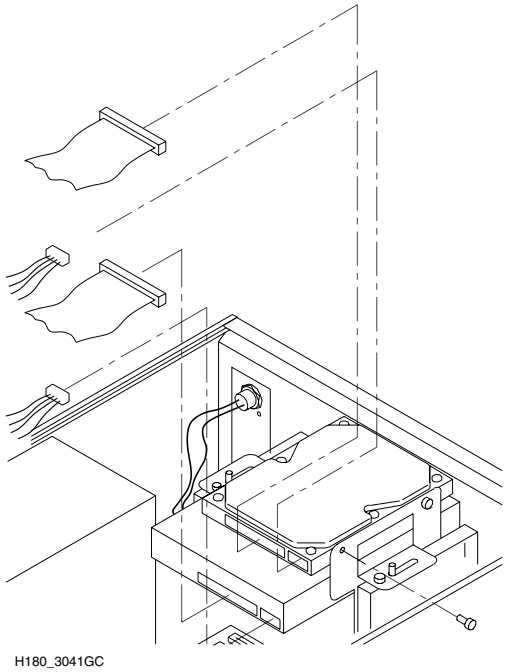
[3] Detach the RIBBON CABLE(S) and POWER CABLE(S) from the drive. See Figure 0–1.

[4] Lift the DRIVE out of the DRIVE BAY. Position the new DRIVE in the DRIVE BAY.

[5] Secure the DRIVE to the DRIVE BAY with the SCREWS.

[6] Replace the MIM COVER and secure it with the SCREW.

Figure 0–1 Replacing the Hard Drives



Connecting to a MIM

To use the troubleshooting procedures in this section, you must connect your Laptop Computer to the MIM using the "SecureLink" authentication and encryption software. For step-by-step connection procedures, see "Connecting Your LAPTOP COMPUTER to a MIM" on Page 2–23.

Finding an Unknown MIM IP Address

[1] Use *pcAnywhere* REMOTE CONTROL SOFTWARE or a MONITOR KIT to access the MIM *Windows 2000* desktop.

[2] Log on to *Windows*:

- Press the C-A-D icon for the *pcAnywhere* application.
- Press Ctrl-Alt-Del for the MONITOR KIT.

[3] Enter:

- Username: **PACSLinkIP**
- Password: **NetServer**

Note

A SecureLink session ID is not required.

[4] Click [OK].

The "ipconfig" utility will run and display current network settings for the MIM.

[5] Press C-A-D to return to the *Windows* log on screen.

Tools for Troubleshooting

The main tools for troubleshooting MIMs are the "MIM Service Application" and "*pcAnywhere*."

- The "MIM Service Application" is the primary tool for troubleshooting. See the next paragraph for descriptions of its functions.
- *pcAnywhere* is the secondary tool for troubleshooting, but it includes some features that the "MIM Service Application" does not. For procedures to start *pcAnywhere* and communicate with the MIM, see "Using pcAnywhere" on Page 2–33.

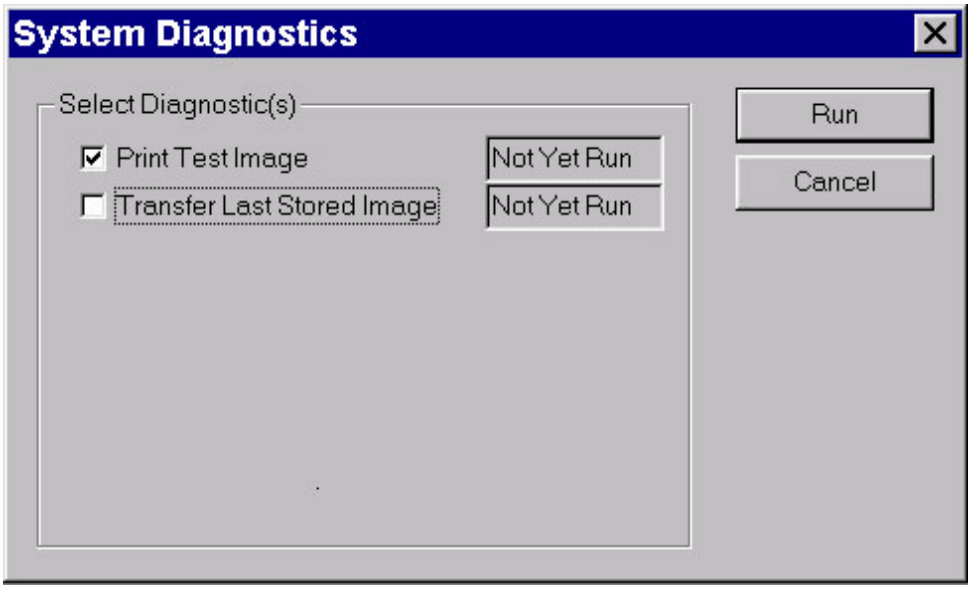
Troubleshooting with the “MIM Service Application”

Running a Test Print Using the “MIM Service Application”

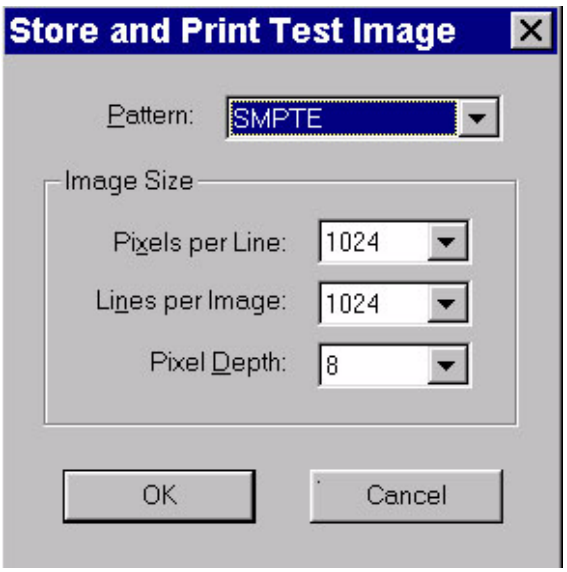
[1] Connect the LAPTOP COMPUTER to the MIM and start the “MIM Service Application.”

[2] Select **Connect>Connect to MIM**.

[3] Select **Diagnostics>System**.



[4] Select the “Print Test Image” box only. Then click [Run].



[5] Select the “Pattern” type from the 7 options to be printed and the “Image Size.”

[6] Click [OK].

Note

If a MIM has more than 1 destination, the test print will be sent to the currently selected or default print destination.

[7] Check the quality of the print.

Running a Test Print Using the DISPLAY KEYPAD

[1] Select the [Menu] button on the KEYPAD.

[2] Using the Arrow keys, advance from the “Service” menu to the “Diagnostic” menu to the “Test Print” menu.

[3] Select “Grayscale Print.”

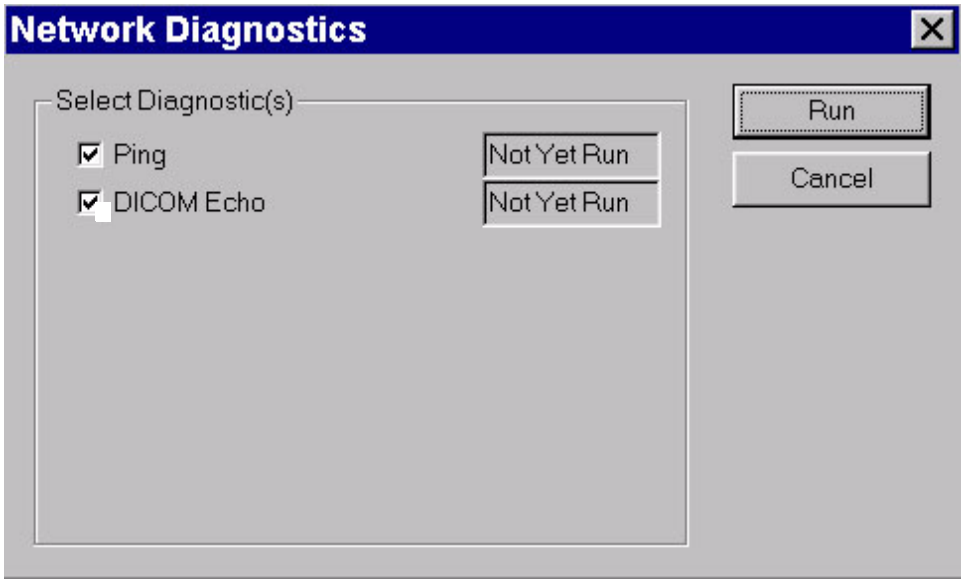
[4] Check the quality of the test print.

Running a Network “Ping” Test from the “MIM Service Application”

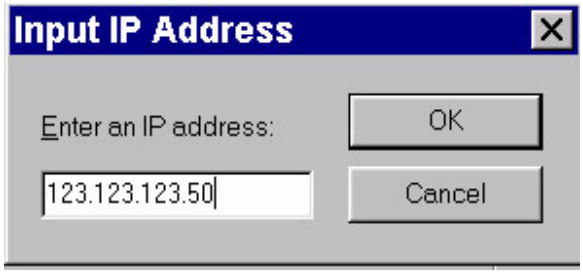
[1] Connect the LAPTOP COMPUTER to the MIM and start the “MIM Service Application.”

[2] Select **Connect>Connect to MIM**.

[3] Select **Diagnostics>Network**.



[4] Select the “Ping” field **only** and click [Run].



[5] Use the Up and Down Arrow Keys to enter the IP Address of the network target.

[6] Click [OK].

[7] Check that Ping was successful.

Running Network Ping from the DISPLAY KEYPAD

[1] Select the [Menu] button on the KEYPAD.

[2] Using the Arrow keys, advance from the “Service” menu to the “Diagnostic” menu.

[3] Select “Network Ping.”

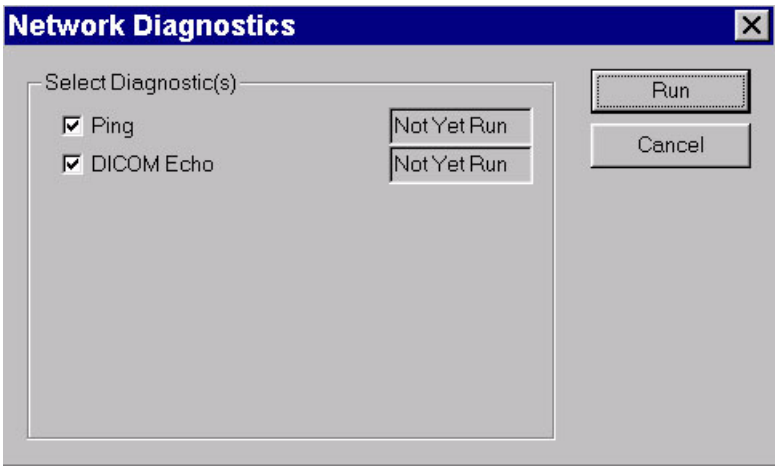
[4] Check that Ping was successful.

Running a Network “DICOM Echo” Test

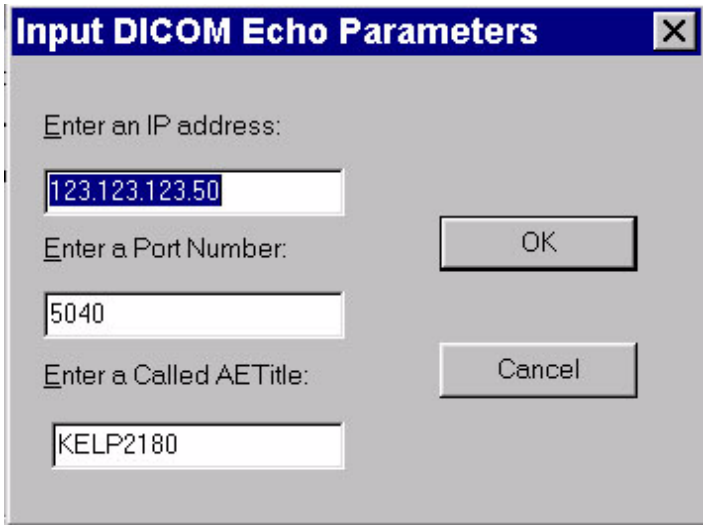
[1] Connect the LAPTOP COMPUTER to the MIM and launch the “MIM Service Application.”

[2] Select **Connect>Connect to MIM**.

[3] Select **Diagnostics>Network**.



[4] Select the “DICOM Echo” field only and click [Run].



[5] Enter the IP Address, Port Number, and AE Title of the network target. Then click [OK].

[6] Check that DICOM Echo was successful.

Running Diagnostics of the INPUT and OUTPUT BOARDS

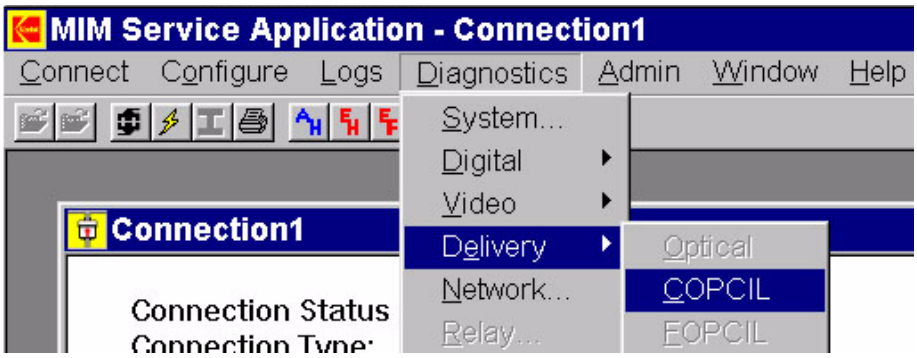
The procedure includes tests for the following INTERFACE BOARDS:

- The DIGITAL INTERFACE BOARD
- The VIDEO INTERFACE BOARDS
- The OPTICAL INTERFACE BOARD, COPPER INTERFACE (COPCIL) BOARD, and FIBER OPTIC INTERFACE (FOPCIL) BOARD

[1] Connect the LAPTOP COMPUTER to the MIM and start the "MIM Service Application."

[2] Select **Connect>Connect to MIM**.

[3] Select **Diagnostics**.



[4] Select tests as follows:

- For tests of the DIGITAL INTERFACE BOARD, select **Digital**.
- For tests of a VIDEO INTERFACE BOARD, select **Video**.
- For tests of an OUTPUT BOARD, select **Delivery**. The options are **Optical**, **COPCIL**, and **FOPCIL**.

[5] Select as necessary from the options and click [OK].

[6] Observe the following notes about DIGITAL INTERFACE BOARD tests:

Important

The OPTO-ISOLATOR test fails if the OPTO-ISOLATOR BOARD is not installed.The diagnostics for the DIGITAL INTERFACE BOARD include tests of the:

- Registers & Interrupts
- FIFO & RAM
- MODALITY INTERFACE
- OPTO-ISOLATOR

[7] Observe the following notes about VIDEO INTERFACE BOARD tests:

Important

If MODALITY Capture Tests fail, the VIDEO INTERFACE BOARD is not necessarily defective:

- The Input Video may not be present.
- The parameters entered in the MIM may not match the parameters for the MODALITY, or they may be incorrect.

The diagnostics for the VIDEO INTERFACE BOARD include the following tests:

- General Tests
- Memory Tests
- MODALITY Capture Tests
- Simulated Capture Tests

Changing Level of a Log for Troubleshooting

The range of detail level for all log subsystems is 0 -7. The higher the level, the more detail in the log for any subsystem. The levels should be changed only for troubleshooting. See the table below for the communication purposes of the logs and the optimum logging levels for troubleshooting:

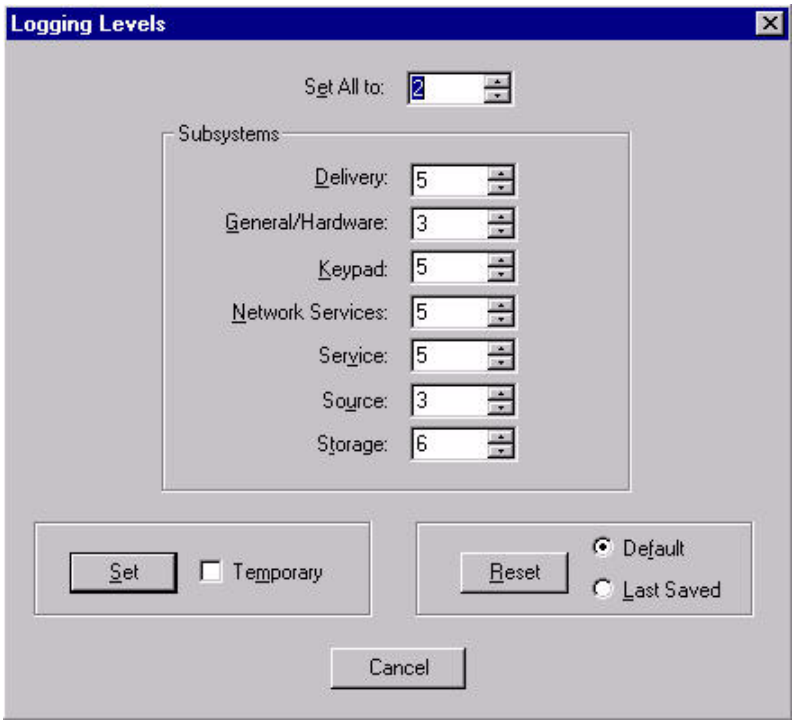
Log	Communication Purpose	Optimum Log Level for V_6.0 and above
Delivery	PRINT SERVER to PRINTER communications	5
General/Hardware	HIS/RIS, communications to *Kodak DryView* LASER IMAGERS	All: 3
KEYPAD	Auxiliary KEYPADS	5
Network Services	DICOM input/output	5
Service	Service functions	5
Source	Autofilming, KEYPAD acquisition and print commands	3
Storage	Disk space, aging algorithm	6

[1] Connect the LAPTOP COMPUTER to the MIM and start the "MIM Service Application."

[2] Select **Connect>Connect to MIM**.

[3] Select **Logs**.

[4] Select **Logging Levels** from the pull-down menu.



[5] To change a "Logging Level" for any subsystem:

(a) Click the Increment or Decrement button next to the name and level number of the subsystem.

(b) Click [Set].

Important

- See the table above for recommended log levels for each subsystem.
- Changing Log Levels only impacts active history after the time of the change.

[6] After completing troubleshooting, reset the log level by selecting "Default" and clicking [Reset].

Retrieving the Activity History Log

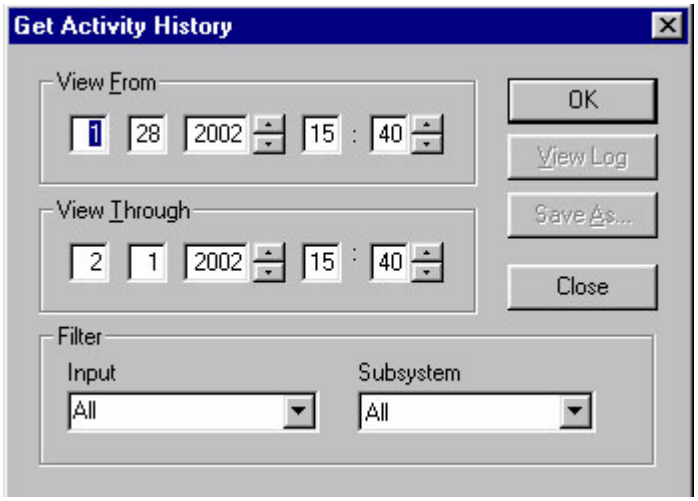
[1] Connect the LAPTOP COMPUTER to the MIM and launch the “MIM Service Application.”

[2] Select **Connect>Connect to MIM**.

[3] Select **Logs**.

[4] Set the Logging Level as instructed in the preceding procedure.

[5] From the “Logs” pull-down menu, select **Activity History**.



Note

The date/time of the LAPTOP COMPUTER and the MIM should match to enable correct time selections.

[6] Enter “View From” and “View Through” dates and times for the log to be retrieved, according to the time set at the MIM.

Note

The right 2 boxes in the “View” fields specify time in hours and minutes using the military system of 1 to 24 hours. For example, 23 and 41 corresponds to 11:41 PM.

[7] Use the “Filter” drop-down menus to select the “Input” and the “Subsystem” log you want to retrieve.

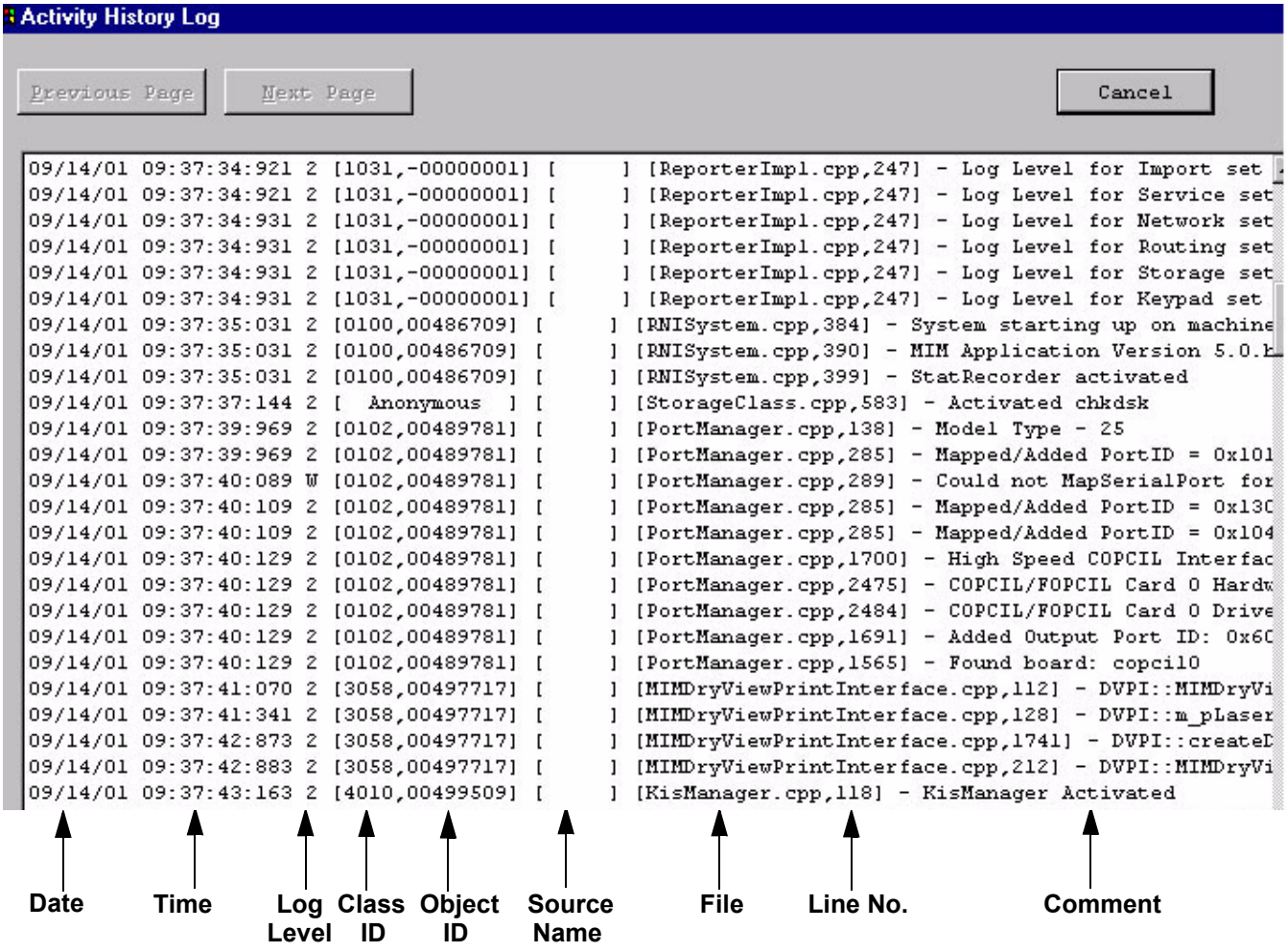
[8] Click [OK].

[9] Select the mode of retrieval:

- To view the log on the MONITOR of the LAPTOP COMPUTER, click [View Log].
- To store the log on the HARD DRIVE of the LAPTOP COMPUTER, click [Save As].

Interpreting the Activity History Log

The retrieved Activity History Log includes data from all subsystems that were operating during the time selected for retrieval, except for subsystems that were filtered out. The log will display this data at the selected level of detail. Following is a sample section of an Activity History Log.


Activity History Log
Previous Page
Next Page
Cancel
09/14/01 09:37:34:921 2 [1031,-00000001] [ ] [ReporterImpl.cpp,247] - Log Level for Import set
09/14/01 09:37:34:921 2 [1031,-00000001] [ ] [ReporterImpl.cpp,247] - Log Level for Service set
09/14/01 09:37:34:931 2 [1031,-00000001] [ ] [ReporterImpl.cpp,247] - Log Level for Network set
09/14/01 09:37:34:931 2 [1031,-00000001] [ ] [ReporterImpl.cpp,247] - Log Level for Routing set
09/14/01 09:37:34:931 2 [1031,-00000001] [ ] [ReporterImpl.cpp,247] - Log Level for Storage set
09/14/01 09:37:34:931 2 [1031,-00000001] [ ] [ReporterImpl.cpp,247] - Log Level for Keypad set
09/14/01 09:37:35:031 2 [0100,00486709] [ ] [RNISystem.cpp,384] - System starting up on machine
09/14/01 09:37:35:031 2 [0100,00486709] [ ] [RNISystem.cpp,390] - MIM Application Version 5.0.b
09/14/01 09:37:35:031 2 [0100,00486709] [ ] [RNISystem.cpp,399] - StatRecorder activated
09/14/01 09:37:37:144 2 [Anonymous] [ ] [StorageClass.cpp,583] - Activated chkdsk
09/14/01 09:37:39:969 2 [0102,00489781] [ ] [PortManager.cpp,138] - Model Type - 25
09/14/01 09:37:39:969 2 [0102,00489781] [ ] [PortManager.cpp,285] - Mapped/Added PortID = 0x101
09/14/01 09:37:40:089 W [0102,00489781] [ ] [PortManager.cpp,289] - Could not MapSerialPort for
09/14/01 09:37:40:109 2 [0102,00489781] [ ] [PortManager.cpp,285] - Mapped/Added PortID = 0x130
09/14/01 09:37:40:109 2 [0102,00489781] [ ] [PortManager.cpp,285] - Mapped/Added PortID = 0x104
09/14/01 09:37:40:129 2 [0102,00489781] [ ] [PortManager.cpp,1700] - High Speed COPCIL Interfac
09/14/01 09:37:40:129 2 [0102,00489781] [ ] [PortManager.cpp,2475] - COPCIL/FOPCIL Card 0 Hardw
09/14/01 09:37:40:129 2 [0102,00489781] [ ] [PortManager.cpp,2484] - COPCIL/FOPCIL Card 0 Drive
09/14/01 09:37:40:129 2 [0102,00489781] [ ] [PortManager.cpp,1691] - Added Output Port ID: 0x60
09/14/01 09:37:40:129 2 [0102,00489781] [ ] [PortManager.cpp,1565] - Found board: copcil0
09/14/01 09:37:41:070 2 [3058,00497717] [ ] [MIMDryViewPrintInterface.cpp,112] - DVPI::MIMDryVi
09/14/01 09:37:41:341 2 [3058,00497717] [ ] [MIMDryViewPrintInterface.cpp,128] - DVPI::m_pLaser
09/14/01 09:37:42:873 2 [3058,00497717] [ ] [MIMDryViewPrintInterface.cpp,1741] - DVPI::createD
09/14/01 09:37:42:883 2 [3058,00497717] [ ] [MIMDryViewPrintInterface.cpp,212] - DVPI::MIMDryVi
09/14/01 09:37:43:163 2 [4010,00499509] [ ] [KisManager.cpp,118] - KisManager Activated
Date
Time
Log Level
Class ID
Object ID
Source Name
File
Line No.
Comment

Key to Columns in the Sample Log:

- Date - Date of log is selected on “Get Activity History” window.
- Time - Time is in military (24 hour) day.
- Log Level - Level of detail. Where the letter “I” (Information), “W” (Warning), or “E” (Error) is displayed in the Log Level field, this line is included in the Error Log.
- Class ID - This information identifies the subsystem logged and is used by development for troubleshooting.
- Object ID - This information is used by development for troubleshooting.
- Source Name - Name of the input that generated the log information.This could be DICOM or the name of the directly connected video or digital input. Each DICOM SCU will have a unique source name.
- File - Name of the file for this line in the program.
- Line No. - Number of the line in the file.
- Comment - Description of the function in the program of this line.

Retrieving the Error History Log

[1] Connect the LAPTOP COMPUTER to the MIM and start the "MIM Service Application."

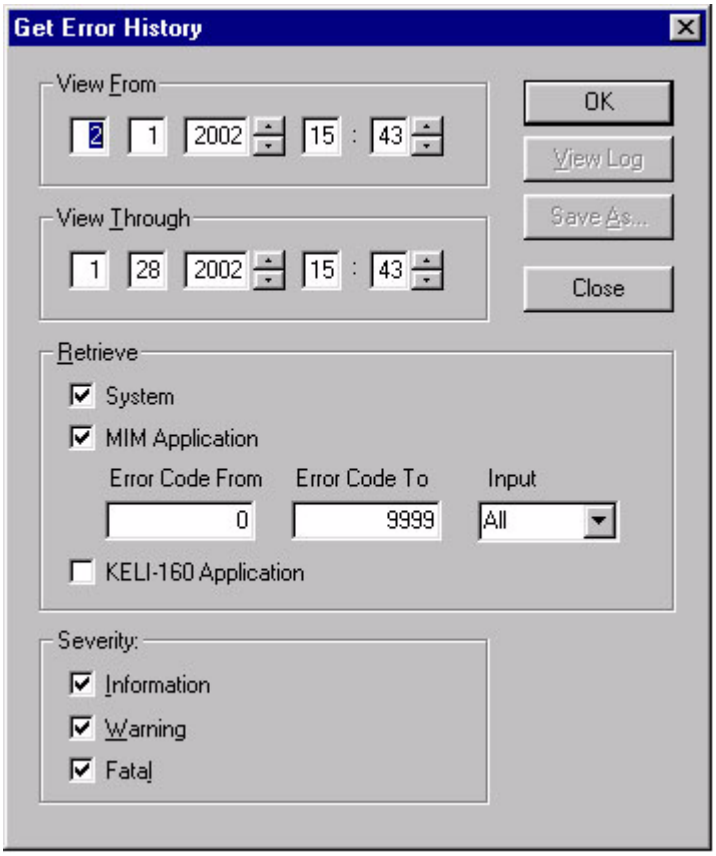
[2] Select **Connect>Connect to MIM**.

[3] Select **Logs**.

[4] From the "Logs" pull-down menu, select **Error History**.

Note

Log Levels do not apply to the Error History Log. **All** errors are logged.



[5] Enter "View From" and "View Through" dates and times for the log to be retrieved.

Note

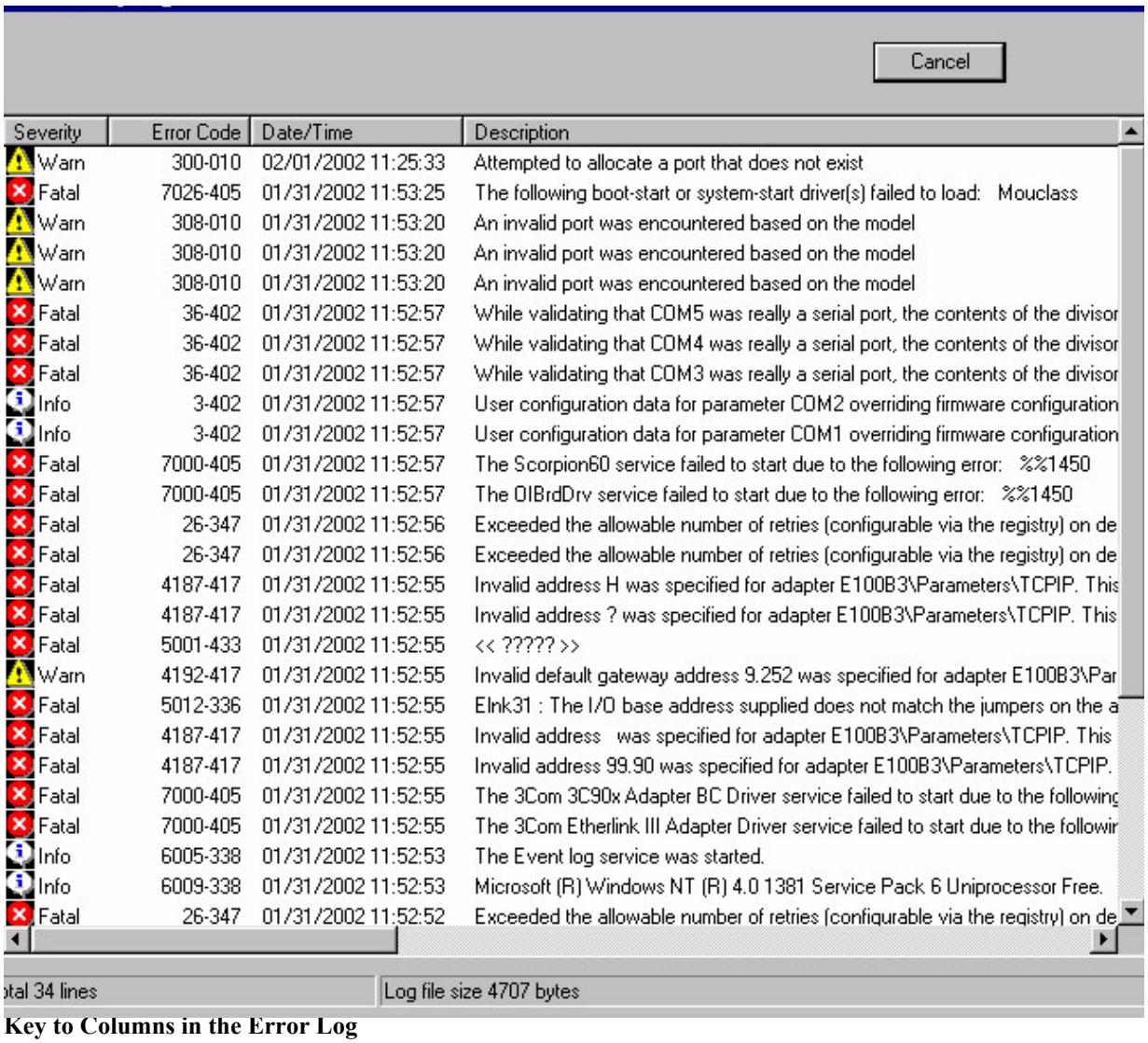
The right 2 boxes in the "View" fields specify time in hours and minutes using the military system of 1 to 24 hours. For example, 23 and 41 corresponds to 11:41 PM

[6] Click [OK].

[7] Select the mode of retrieval:

- To view the log on the MONITOR of the LAPTOP COMPUTER, click [View Log].
- To store the log on the HARD DRIVE of the LAPTOP COMPUTER, click [Save As].

Interpreting the Error History Log


Cancel
Severity
Error Code
Date/Time
Description
Warn 300-010 02/01/2002 11:25:33 Attempted to allocate a port that does not exist
Fatal 7026-405 01/31/2002 11:53:25 The following boot-start or system-start driver(s) failed to load: Mouclass
Warn 308-010 01/31/2002 11:53:20 An invalid port was encountered based on the model
Warn 308-010 01/31/2002 11:53:20 An invalid port was encountered based on the model
Warn 308-010 01/31/2002 11:53:20 An invalid port was encountered based on the model
Fatal 36-402 01/31/2002 11:52:57 While validating that COM5 was really a serial port, the contents of the divisor
Fatal 36-402 01/31/2002 11:52:57 While validating that COM4 was really a serial port, the contents of the divisor
Fatal 36-402 01/31/2002 11:52:57 While validating that COM3 was really a serial port, the contents of the divisor
Info 3-402 01/31/2002 11:52:57 User configuration data for parameter COM2 overriding firmware configuration
Info 3-402 01/31/2002 11:52:57 User configuration data for parameter COM1 overriding firmware configuration
Fatal 7000-405 01/31/2002 11:52:57 The Scorpion60 service failed to start due to the following error: %%1450
Fatal 7000-405 01/31/2002 11:52:57 The OIBrdDrv service failed to start due to the following error: %%1450
Fatal 26-347 01/31/2002 11:52:56 Exceeded the allowable number of retries (configurable via the registry) on de
Fatal 26-347 01/31/2002 11:52:56 Exceeded the allowable number of retries (configurable via the registry) on de
Fatal 4187-417 01/31/2002 11:52:55 Invalid address H was specified for adapter E100B3\Parameters\TCPIP. This
Fatal 4187-417 01/31/2002 11:52:55 Invalid address ? was specified for adapter E100B3\Parameters\TCPIP. This
Fatal 5001-433 01/31/2002 11:52:55 << ????? >>
Warn 4192-417 01/31/2002 11:52:55 Invalid default gateway address 9.252 was specified for adapter E100B3\Par
Fatal 5012-336 01/31/2002 11:52:55 Elnk31 : The I/O base address supplied does not match the jumpers on the a
Fatal 4187-417 01/31/2002 11:52:55 Invalid address was specified for adapter E100B3\Parameters\TCPIP. This
Fatal 4187-417 01/31/2002 11:52:55 Invalid address 99.90 was specified for adapter E100B3\Parameters\TCPIP.
Fatal 7000-405 01/31/2002 11:52:55 The 3Com 3C90x Adapter BC Driver service failed to start due to the following
Fatal 7000-405 01/31/2002 11:52:55 The 3Com Etherlink III Adapter Driver service failed to start due to the followir
Info 6005-338 01/31/2002 11:52:53 The Event log service was started.
Info 6009-338 01/31/2002 11:52:53 Microsoft (R) Windows NT (R) 4.0 1381 Service Pack 6 Uniprocessor Free.
Fatal 26-347 01/31/2002 11:52:52 Exceeded the allowable number of retries (configurable via the registry) on de
tal 34 lines
Log file size 4707 bytes

Key to Columns in the Error Log

- Severity - “Info” = Information only (no error). “Fatal” = Error condition causes system to stop. “Warning” = Error condition, but system continues to run.
- Error Code - Series of digits to the left of the (-) is the error code. Series of 3 digits to the right of the hyphen is the source code. See the table below for categories of errors.
- Date/Time - Date/Time can be selected by user. Time is in military (24 hour clock) days.
- Description - Describes the error.

Table 11–1 Error Code Categories

Error Codes	Subsystem	Types of Error
0-599	General	Object or operation not found
600-699	Hardware	Buffer too small. Invalid firmware. Memory test error.
1000-1999	Service	Diagnostic not found. DAD message error.
2000-2999	Source	Command device not ready. Error reading or writing image.
3000-3999	Delivery	Page full. Invalid curve shape. Failure sending image to PRINTER.
4000-4999	Network Services	Problem in DICOM delivery. Wrong information for MIM.
5000-5999	Storage	Memory access error. “Disk Low Water Mark” not reached.
6000-6999	KEYPAD	KEYPAD cannot send the message. KEYPAD test failure.

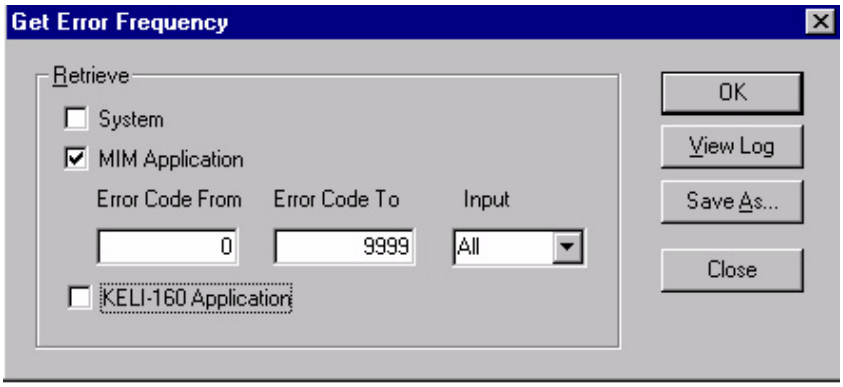
Retrieving the Error Frequency Log

[1] Connect the LAPTOP COMPUTER to the MIM and start the "MIM Service Application."

[2] Select **Connect>Connect to MIM**.

[3] Select **Logs**.

[4] From the "Logs" pull-down menu, select **Error Frequency**.



[5] In the "Retrieve" panel, select one of the following:

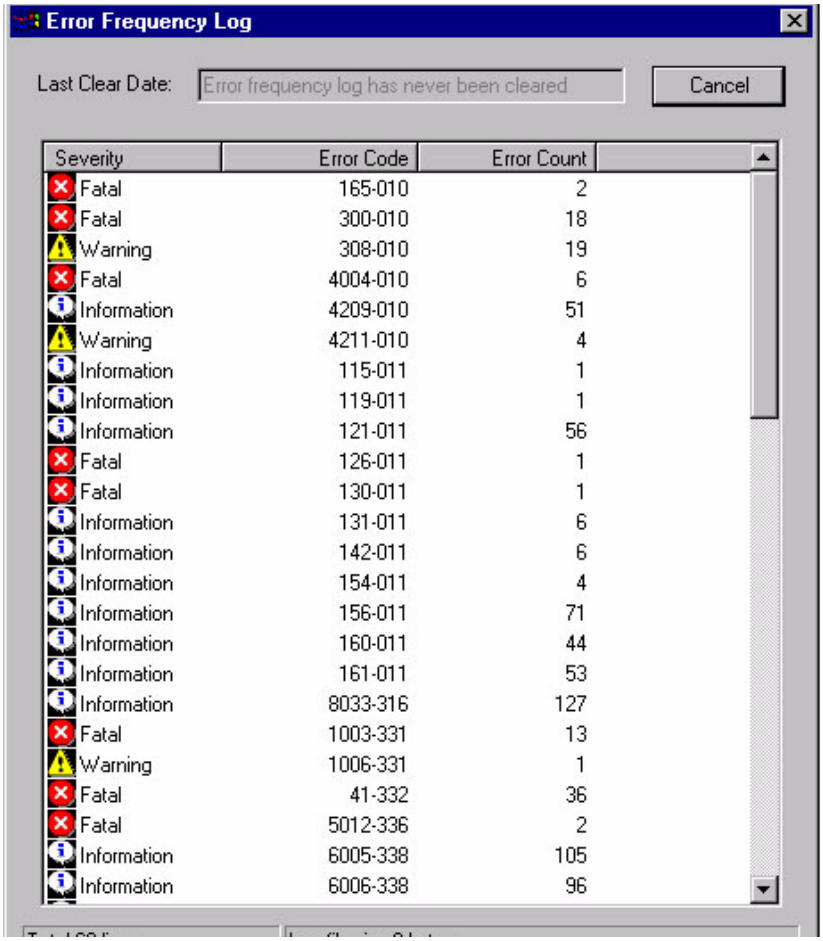
- "System" (*Windows* NT Operating System)
- "MIM Application" (all logging subsystems for MIM)
- "KELI-160 Application"

[6] If you chose "MIM Application," enter "Error Code From" and "Error Code To" numbers.

[7] Click [OK].

[8] At the prompt, click [View Log].

[9] To save the log, click [Save As].



Clearing the Error Frequency Log

Important

Use this function after repairing a problem to observe if the "Error Frequency Log" indicates the error again.

[1] From the "MIM Service Application" window, select **Logs>Clear Error Frequency Log.**

[2] Click [Clear].

[3] At the prompt "Are you sure?" click [Yes].

Viewing Printing Statistics

The MIM uses print counters:

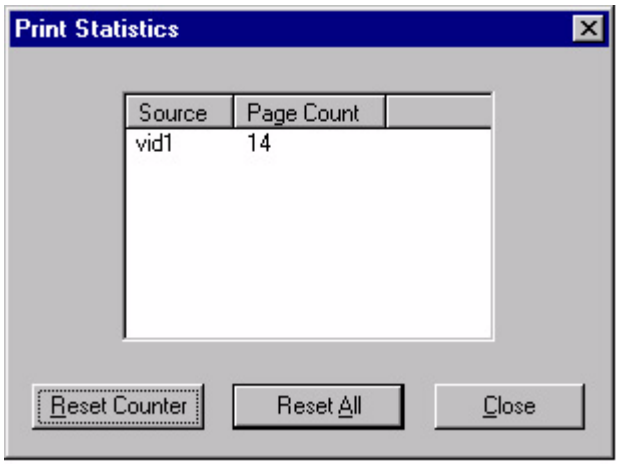
- For PRINT SERVERS: From a source on DICOM.
- For MODALITY SERVERS: From direct input from a MODALITY, video or digital.

[1] Connect the LAPTOP COMPUTER to the MIM and start the "MIM Service Application."

[2] Select **Connect>Connect to MIM**.

[3] Select **Admin**.

[4] From the **Admin** pull-down menu, select **Printing Statistics Database**.



Note

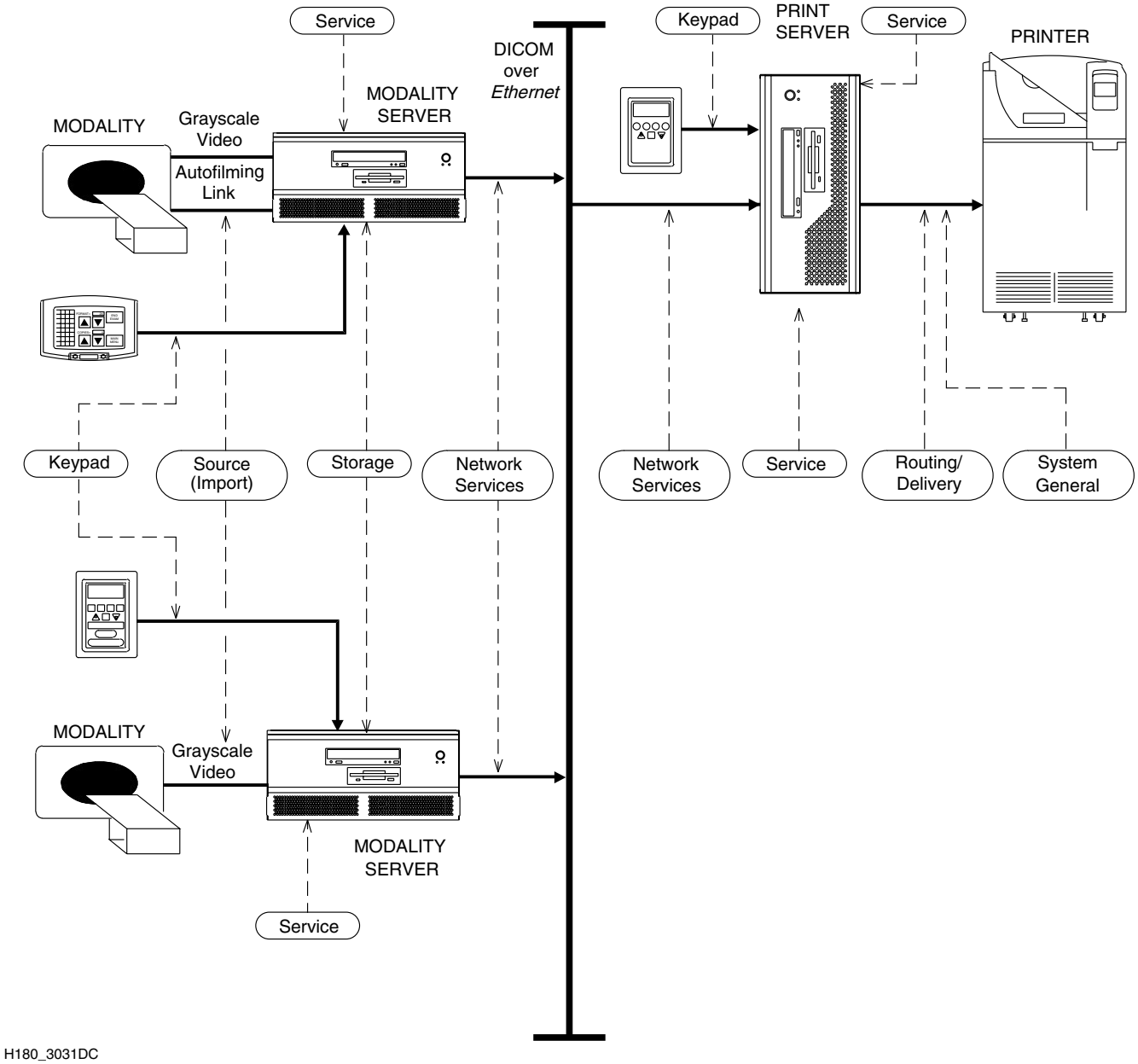
The MIM has the ability to reset a particular counter or all counters.

Troubleshooting with *pcAnywhere* REMOTE CONTROL SOFTWARE

Using "Live Console Logs"

The preceding procedures describe use of the Activity History Log and the Error History Log, which allow the FE to view logs of system operations that have occurred in the past. The following paragraphs provide information for viewing logs of operations **as the operations occur**. The console log subsystems are the same as those for the Activity History Logs. Figure 11–2 indicates the sources of data for the logs.

Figure 11–2 Console Log Data Sources

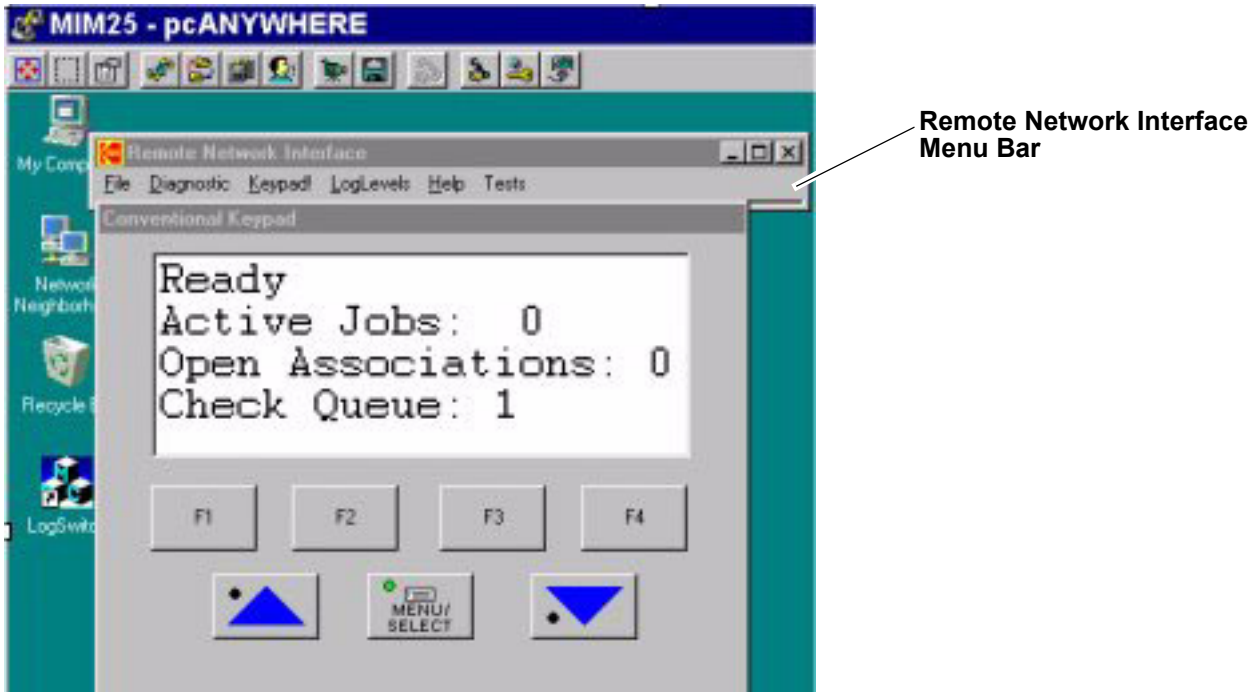


To View the Logs:

[1] Connect the LAPTOP COMPUTER to the MIM.

[2] Start the *pcAnywhere* application and connect with the MIM.

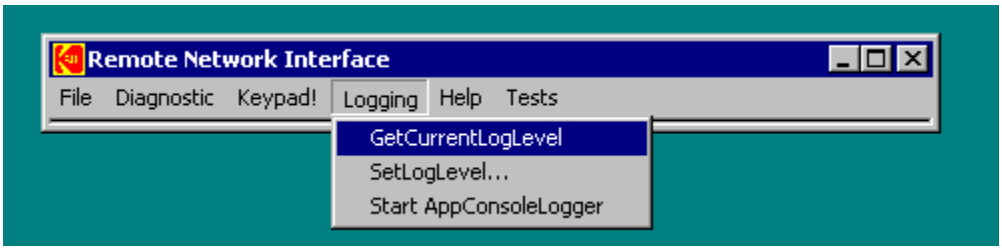
The MIM desktop will display on the LAPTOP COMPUTER.



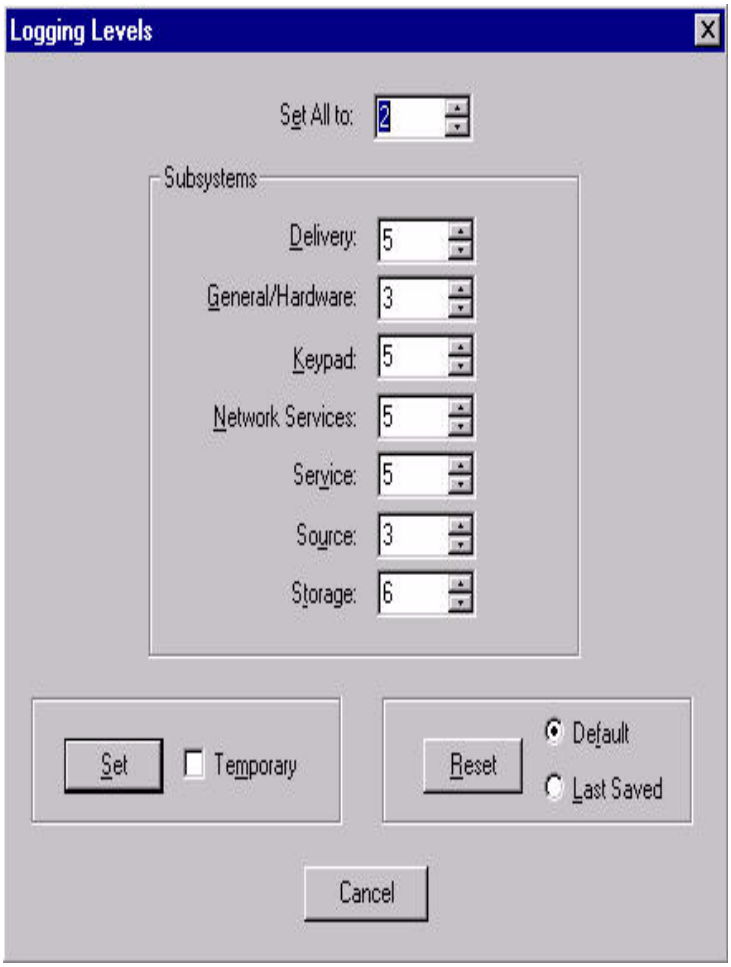
[3] From the "Remote Network Interface" menu bar, select **Logging**.

Important

Do not use any features on the "Remote Network Interface" menu bar except "Logging".



[4] Select **Start AppConsoleLogger**.
The log displays.

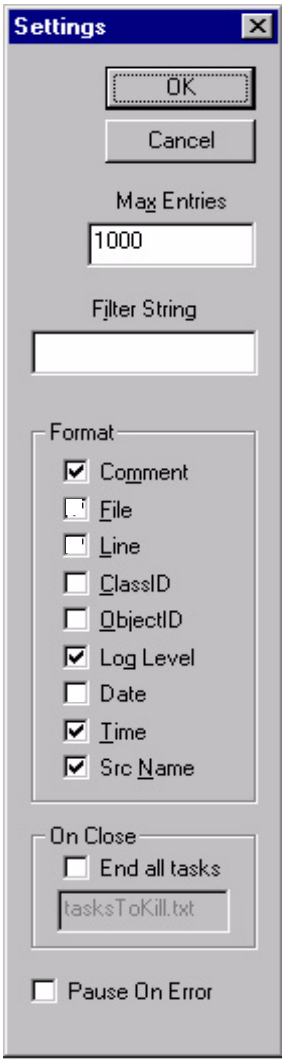


Note

The defaults for Log Level are preset to the correct level for troubleshooting purposes as shown.

[5] At the "Remote Network Interface" menu bar, select **SetLogLevel**.

[6] At the "Console" menu bar, select **View**.



[7] In the "Format" panel of the 'Settings" window, select the fields you wish to display in the log.

Note

For troubleshooting, the most useful fields are Comment, Log Level, Time, and SRC Name. With these fields selected, a log line appears as indicated below:

09:55:05:058 2 [ ] SCU Assoc#29022 Up (XRAY 8200)

| | | | |

Time Log Level SRC Name Comment

[8] After "filtering" the fields, click [OK].

[9] When finished, at the "Remote Network Interface" menu bar, select **Logging**.

[10] Select **Stop AppConsoleLogger**.

Network Services Log

DICOM communications between an SCU and an SCP normally occur in the sequence indicated in the table below. Each of the command functions is described following the table.

Sequence	Command Function	Command
1	Negotiations between SCU and SCP.	Open an association
2	Get PRINTER status.	prNGet
3	Create a film session.	fsNCreate
4	Create a film box.	fbNCreate
5	Set the image box.	ibNSet
6	Print.	fbNAction
7	End the job.	fbNDelete
8	End the session.	fsNDelete

1. Negotiation Phase - A new connection is opened and communication between SCU and SCP occurs as in the sample printout below:

11/29/01 13:32:38:839 5 [ ] [MIMPrintAcse.cpp,836] - SCP Assoc#4:==> NEW CONNECTION OPENED <==
11/29/01 13:32:38:859 5 [ ] [MIMPrintAcse.cpp,840] - SCP Assoc#4: SCU/Modality AE Title = MIMP
11/29/01 13:32:38:889 5 [ ] [MIMPrintAcse.cpp,845] - SCP Assoc#4: SCU/Host IP Address = 149.98.199.86
11/29/01 13:32:38:919 5 [ ] [MIMPrintAcse.cpp,846] - SCP Assoc#4: SCU/Implement Version Name =
11/29/01 13:32:38:939 5 [ ] [MIMPrintAcse.cpp,847] - SCP Assoc#4: SCU/Implement UID = 1.2.840.113564.3.1.3
11/29/01 13:32:38:970 5 [ ] [MIMPrintAcse.cpp,1466] - SCP Assoc#4: Destination AE Title = MIM
11/29/01 13:32:39:000 5 [ ] [MIMPrintAcse.cpp,1504] - SCP Assoc#4: Destination Name = MIM
11/29/01 13:32:39:030 5 [ ] [MIMPrintAcse.cpp,1523] - SCP Assoc#4: The Default Printer is 83
11/29/01 13:32:39:050 5 [ ] [MIMPrintAcse.cpp,1538] - SCP Assoc#4: No perfect Name match for MIM
11/29/01 13:32:39:080 5 [ ] [MIMPrintAcse.cpp,1603] - SCP Assoc#4: No unique ShortName match for MIM
11/29/01 13:32:39:110 5 [ ] [MIMPrintAcse.cpp,1730] - SCP Assoc#4: No unique Type match for Destination MIM
11/29/01 13:32:39:140 5 [ ] [MIMPrintAcse.cpp,1734] - SCP Assoc#4: Using the Default Printer for Destination MIM
11/29/01 13:32:39:160 5 [ ] [MIMPrintAcse.cpp,1743] - SCP Assoc#4: The Printer being used for this session is 83
11/29/01 13:32:39:270 3 [ ] [MIMPrintAcse.cpp,710] - SCP Assoc#4: Verification SOP negotiated.
11/29/01 13:32:39:300 3 [ ] [MIMPrintAcse.cpp,694] - SCP Assoc#4: Basic Grayscale Print Meta SOP negotiated.
11/29/01 13:32:39:330 3 [ ] [MIMPrintAcse.cpp,706] - SCP Assoc#4: Presentation LUT SOP negotiated.
11/29/01 13:32:39:360 2 [ ] [MIMDicomDevice.cpp,59] - SCP Assoc#4 Up for 83 from modality MIMP

2. prNGet - Get PRINTER status. The MODALITY (SCU) asks for the status and characteristics of the PRINTER that is connected to the PRINT SERVER.

11/29/01 13:32:40:321 5 [DICOM] [PrintSCPService.cpp,3753] - SCP Assoc#4: Sending Printer SOP [N-GET]
11/29/01 13:32:40:352 5 [DICOM] [PrintSCPService.cpp,3792] - SCP Assoc#4: Sending status for 83=> Severity:NORMAL Status:NORMAL. (N-Get)

3. fsNCreate - Create a film session. Information about the film is communicated between the MODALITY (SCU) and the PRINT SERVER (SCP). This includes number of copies, priority, type of medium, film destination, and status.

```
11/29/01 13:32:39:711 5  [DICOM] [PrintSCPService.cpp,1670] -  SCP Assoc#4: Creating Film Session (FS) [N-CREATE]
11/29/01 13:32:39:761 5  [DICOM] [PrintSCPService.cpp,1689] -  SCP Assoc#4: FS default Contrast: 0 (from Connection DB)
11/29/01 13:32:39:831 5  [DICOM] [PrintSCPService.cpp,1746] -  SCP Assoc#4: FS default Modality: CT (from Dicom)
11/29/01 13:32:39:891 5  [DICOM] [PrintSCPService.cpp,1817] -  SCP Assoc#4: Setting Film Session (FS) [N-SET]
11/29/01 13:32:39:921 5  [DICOM] [PrintSCPService.cpp,1826] -  SCP Assoc#4: FS Copies: 1
11/29/01 13:32:39:961 5  [DICOM] [PrintSCPService.cpp,1888] -  SCP Assoc#4: FS Print Priority: MED
11/29/01 13:32:39:991 5  [DICOM] [PrintSCPService.cpp,1982] -  SCP Assoc#4: FS Using FilmBase from Connection DB
11/29/01 13:32:40:021 5  [DICOM] [PrintSCPService.cpp,2002] -  SCP Assoc#4: FS Value received for FilmBase was BLUE FILM
```

4. fbNCreate - Create a film box. The command to create a film box defines how the image will appear on film. The information communicated includes: film size, type, orientation, format, contrast, density, trim, configuration information (TFT/ULUT), etc.

```
11/29/01 13:32:42:625 5  [DICOM] [PrintSCPService.cpp,848] -  SCP Assoc#4: Setting Image Box (IB) for Position 1 [N-SET]
11/29/01 13:32:42:655 5  [DICOM] [PrintSCPService.cpp,3566] -  SCP Assoc#4: IB Rows: 480
11/29/01 13:32:42:685 5  [DICOM] [PrintSCPService.cpp,3576] -  SCP Assoc#4: IB Columns: 748
11/29/01 13:32:42:715 5  [DICOM] [PrintSCPService.cpp,3583] -  SCP Assoc#4: IB Bits Allocated: 8
11/29/01 13:32:42:745 5  [DICOM] [PrintSCPService.cpp,3601] -  SCP Assoc#4: IB Bits Per Pixel (stored): 8
11/29/01 13:32:42:775 5  [DICOM] [PrintSCPService.cpp,3632] -  SCP Assoc#4: IB High Bit: 7
11/29/01 13:32:42:805 5  [DICOM] [PrintSCPService.cpp,3649] -  SCP Assoc#4: IB Pixel Aspect Ratio: 13:15
11/29/01 13:32:42:835 5  [DICOM] [PrintSCPService.cpp,3679] -  SCP Assoc#4: IB Photometric Interpretation: MONOCHROME2
11/29/01 13:32:42:885 5  [DICOM] [PrintSCPService.cpp,1166] -  SCP Assoc#4: IB Polarity: NORMAL (from Dicom)
11/29/01 13:32:42:915 5  [DICOM] [PrintSCPService.cpp,1197] -  SCP Assoc#4: IB Magnification Type: CUBIC
11/29/01 13:32:42:945 5  [DICOM] [PrintSCPService.cpp,1215] -  SCP Assoc#4: IB Smoothing Type: 15
11/29/01 13:32:42:975 4  [DICOM] [PrintSCPService.cpp,1333] -  SCP Assoc#4: IB Configuration Information: LUT=Ver693c0.w87,0
11/29/01 13:32:43:005 3  [DICOM] [PrintSCPService.cpp,1452] -  SCP Assoc#4: IB Set TFT: Ver693c0.w87
11/29/01 13:32:43:035 5  [DICOM] [PrintSCPService.cpp,1453] -  SCP Assoc#4: IB Set Dry Contrast: 6
11/29/01 13:32:43:065 5  [DICOM] [PrintSCPService.cpp,1515] -  SCP Assoc#4: IB Body Part: DEFAULT (from Connection DB)
11/29/01 13:32:43:156 5  [DICOM] [PrintSCPService.cpp,1583] -  SCP Assoc#4: IB Color Profile: @DEF0 (from Connection DB)
11/29/01 13:32:43:196 5  [DICOM] [PrintSCPService.cpp,1616] -  SCP Assoc#4: IB Image Tone Adjustment: 0 (from Connection DB)
11/29/01 13:32:43:246 5  [DICOM] [PrintSCPService.cpp,1040] -  SCP Assoc#4: IB found an Image's PLUT
11/29/01 13:32:43:276 5  [DICOM] [PrintSCPService.cpp,1063] -  SCP Assoc#4: IB uses PLUT uid: 1.2.840.113564.3.5040.2001.11.29
```

5. ibNSet - Set the image box. This command sends image data to a defined location on film. The MODALITY transfers the image data along with position and size information and assigns a job number. Information provided includes: rows and columns, bit depth, aspect ratio, polarity, magnification and smoothing type, etc.

```
11/29/01 13:32:42:625 5  [DICOM] [PrintSCPService.cpp,848] -  SCP Assoc#4: Setting Image Box (IB) for Position 1 [N-SET]
11/29/01 13:32:42:655 5  [DICOM] [PrintSCPService.cpp,3566] -  SCP Assoc#4: IB Rows: 480
11/29/01 13:32:42:685 5  [DICOM] [PrintSCPService.cpp,3576] -  SCP Assoc#4: IB Columns: 748
11/29/01 13:32:42:715 5  [DICOM] [PrintSCPService.cpp,3583] -  SCP Assoc#4: IB Bits Allocated: 8
11/29/01 13:32:42:745 5  [DICOM] [PrintSCPService.cpp,3601] -  SCP Assoc#4: IB Bits Per Pixel (stored): 8
11/29/01 13:32:42:775 5  [DICOM] [PrintSCPService.cpp,3632] -  SCP Assoc#4: IB High Bit: 7
11/29/01 13:32:42:805 5  [DICOM] [PrintSCPService.cpp,3649] -  SCP Assoc#4: IB Pixel Aspect Ratio: 13:15
11/29/01 13:32:42:835 5  [DICOM] [PrintSCPService.cpp,3679] -  SCP Assoc#4: IB Photometric Interpretation: MONOCHROME2
11/29/01 13:32:42:885 5  [DICOM] [PrintSCPService.cpp,1166] -  SCP Assoc#4: IB Polarity: NORMAL (from Dicom)
11/29/01 13:32:42:915 5  [DICOM] [PrintSCPService.cpp,1197] -  SCP Assoc#4: IB Magnification Type: CUBIC
11/29/01 13:32:42:945 5  [DICOM] [PrintSCPService.cpp,1215] -  SCP Assoc#4: IB Smoothing Type: 15
11/29/01 13:32:42:975 4  [DICOM] [PrintSCPService.cpp,1333] -  SCP Assoc#4: IB Configuration Information: LUT=Ver693c0.w87,006
11/29/01 13:32:43:005 3  [DICOM] [PrintSCPService.cpp,1452] -  SCP Assoc#4: IB Set TFT: Ver693c0.w87
11/29/01 13:32:43:035 5  [DICOM] [PrintSCPService.cpp,1453] -  SCP Assoc#4: IB Set Dry Contrast: 6
11/29/01 13:32:43:065 5  [DICOM] [PrintSCPService.cpp,1515] -  SCP Assoc#4: IB Body Part: DEFAULT (from Connection DB)
11/29/01 13:32:43:156 5  [DICOM] [PrintSCPService.cpp,1583] -  SCP Assoc#4: IB Color Profile: @DEF0 (from Connection DB)
11/29/01 13:32:43:196 5  [DICOM] [PrintSCPService.cpp,1616] -  SCP Assoc#4: IB Image Tone Adjustment: 0 (from Connection DB)
11/29/01 13:32:43:246 5  [DICOM] [PrintSCPService.cpp,1040] -  SCP Assoc#4: IB found an Image's PLUT
11/29/01 13:32:43:276 5  [DICOM] [PrintSCPService.cpp,1063] -  SCP Assoc#4: IB uses PLUT uid: 1.2.840.113564.3.5040.2001.11.29.13.32.2
```

6. fbNAction and **8. fsNDelete - Print the job and delete the session**. The MODALITY asks that the job be printed and the session be deleted.

```
11/29/01 13:32:43:596 5  [DICOM] [PrintSCPService.cpp,677] -  SCP Assoc#4: Printing Film Box (FB) [N-ACTION]
11/29/01 13:32:43:806 5  [DICOM] [PrintSCPService.cpp,375] -  SCP Assoc#4: Deleting Film Session (FS) [N-DELETE]
11/29/01 13:32:43:957 2  [     ] [MIMDicomDevice.cpp,78] -  SCP Assoc#4 Down
```

Example Subsystem Logs

The following pages include sample logs of communications that occur during the following operations:

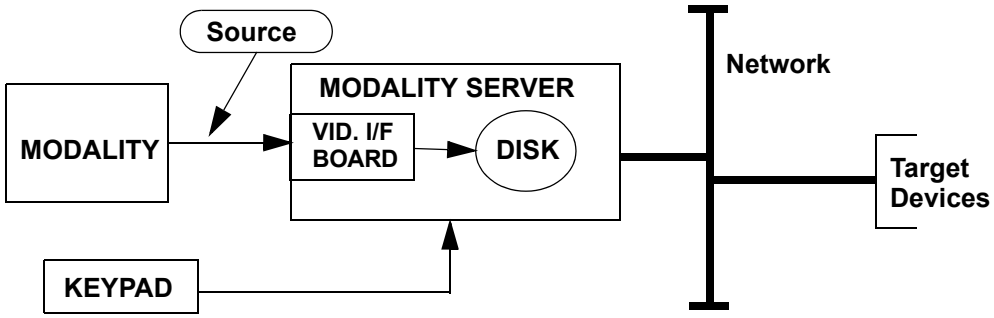
- MIM power on - Logged activity from all subsystems.
- KEYPAD to MODALITY SERVER - Source Subsystem.
- MODALITY SERVER to PRINT SERVER - Network Services Subsystem.
- DISPLAY KEYPAD to PRINT SERVER - KEYPAD Subsystem.
- MIM Storage - Storage Subsystem.
- PRINT SERVER to PRINTER - Delivery Subsystem.
- PRINT SERVER to PRINTER (952 Command Set) - Idle State - System/General Subsystem.
- PRINT SERVER to PRINTER (952 Command Set) - Job Transfer - System/General Subsystem.
- PRINT SERVER to PRINTER (Superset) - Idle State - System/General Subsystem.
- PRINT SERVER to PRINTER (Superset) - Job Transfer - System/General Subsystem.
- MODALITY SERVER to PRINT SERVER to *Kodak DryView* 8200 LASER IMAGER - Network and Delivery Subsystems.

Sample Log 1 - MIM Power On - This log shows the power-on process of a MIM. The log level for **all subsystems** is set at 2, as indicated in the first 6 lines of the log.

```
11/30/01 10:02:21:041 2  [     ] [ReporterImpl.cpp,247] - Log Level for Service set to LOGLEVEL2
11/30/01 10:02:21:061 2  [     ] [ReporterImpl.cpp,247] - Log Level for Import set to LOGLEVEL2
11/30/01 10:02:21:072 2  [     ] [ReporterImpl.cpp,247] - Log Level for Routing set to LOGLEVEL2
11/30/01 10:02:21:092 2  [     ] [ReporterImpl.cpp,247] - Log Level for Network set to LOGLEVEL2
11/30/01 10:02:21:112 2  [     ] [ReporterImpl.cpp,247] - Log Level for Storage set to LOGLEVEL2
11/30/01 10:02:21:122 2  [     ] [ReporterImpl.cpp,247] - Log Level for Keypad set to LOGLEVEL2
11/30/01 10:02:21:142 2  [     ] [RNISystem.cpp,387] - System starting up on machine MIMSMALL
11/30/01 10:02:21:162 2  [     ] [RNISystem.cpp,393] - MIM Application Version 5.0.b10
11/30/01 10:02:21:182 2  [     ] [RNISystem.cpp,402] - StatRecorder activated
11/30/01 10:02:23:635 2  [     ] [StorageClass.cpp,583] - Activated chkdsk
11/30/01 10:02:26:239 2  [     ] [PortManager.cpp,138] - Model Type - 25
11/30/01 10:02:26:299 2  [     ] [PortManager.cpp,285] - Mapped/Added PortID = 0x101
11/30/01 10:02:26:309 W  [     ] [PortManager.cpp,289] - Could not MapSerialPort for: 2 (#308)
11/30/01 10:02:26:499 2  [     ] [PortManager.cpp,285] - Mapped/Added PortID = 0x1305
11/30/01 10:02:26:509 2  [     ] [PortManager.cpp,285] - Mapped/Added PortID = 0x104
11/30/01 10:02:26:529 2  [     ] [PortManager.cpp,1565] - Found board: copcil0
11/30/01 10:02:26:539 2  [     ] [PortManager.cpp,2475] - COPCIL/FOPCIL Card 0 Hardware Rev 0
11/30/01 10:02:26:559 2  [     ] [PortManager.cpp,2484] - COPCIL/FOPCIL Card 0 Driver Version 0.1.5
11/30/01 10:02:26:569 2  [     ] [PortManager.cpp,1691] - Added Output Port ID: 0x601
11/30/01 10:02:26:589 2  [     ] [PortManager.cpp,1700] - High Speed COPCIL Interface Card at Slot #18
11/30/01 10:02:27:401 2  [     ] [MIMDryViewPrintInterface.cpp,112] -DVPI::MIMDryViewPrintInterface() start
11/30/01 10:02:27:511 2  [     ] [MIMDryViewPrintInterface.cpp,2384] - DVPI::StartDVReportingInstance() start
11/30/01 10:02:27:531 E  [     ] [DVReporting.cpp,30] - DVPrintserver logging is up! (#99)
11/30/01 10:02:27:561 2  [     ] [MIMDryViewPrintInterface.cpp,128] - DVPI::m_pLaserImager Created
11/30/01 10:02:27:621 2  [     ] [MIMDryViewPrintInterface.cpp,1867] - DVPI::createDVDiagnosticInstance() start
11/30/01 10:02:27:641 2  [     ] [MIMDryViewPrintInterface.cpp,212] - DVPI::MIMDryViewPrintInterface() end
11/30/01 10:02:27:881 2  [     ] [KisManager.cpp,118] - KisManager Activated
11/30/01 10:02:27:991 E  [     ] [ImgDevExt.cpp,176] - Something wrong with channelNum (#300)
11/30/01 10:02:28:021 1  [     ] [ImgCapDev.cpp,137] - mutex string = NETWORK_0
11/30/01 10:02:28:052 2  [     ] [NetImgCapDevExt.cpp,103] - NetworkImageCaptureDeviceExt AttachAndLoad()...
11/30/01 10:02:28:132 2  [     ] [ConventionalKeypad.cpp,104] - Conventional Keypad constructed!!
11/30/01 10:02:28:162 2  [DICOM] [MIMPrintSCP.cpp,249] - PrintSCP listener is activated on port: 5040
11/30/01 10:02:28:192 2  [DICOM] [KeypadBase.cpp,85] - Loaded a new Resource DLL: .\RniResources.dll
11/30/01 10:02:29:434 2  [DICOM] [ConventionalKeypad.cpp,789] - Conventional Keypad Activated!!
```

11/30/01 10:02:29:454 1 [DICOM] [CKMainDisplayScreen.cpp,226] - Initialized the hint list
11/30/01 10:02:29:474 1 [DICOM] [CKMainDisplayScreen.cpp,233] - Attached to the ViewManager
11/30/01 10:02:29:714 2 [DICOM] [ConventionalKeypad.cpp,1183] - Conventional Spooler Keypad firmware version: 5
11/30/01 10:02:29:744 2 [DICOM] [ConventionalKeypad.cpp,1104] - A print spooler conventional keypad has been detected.
11/30/01 10:02:44:004 2 [ ] [DryViewStatusEvent.cpp,454] - DVPS Printer[1] FP Status: = FP_Unknown/FP_Normal
11/30/01 10:02:44:035 2 [ ] [DryViewStatusEvent.cpp,464] - DVPS Printer[1] mapped status: NORMAL/NORMAL
(End of log.)

Sample Log 2 - KEYPAD to MODALITY SERVER - This log monitors acquisition and print commands from a TOUCHSCREEN or PRINT KEYPAD to a MODALITY SERVER. Logs have been filtered to include only the **Source (Import) Subsystem**.



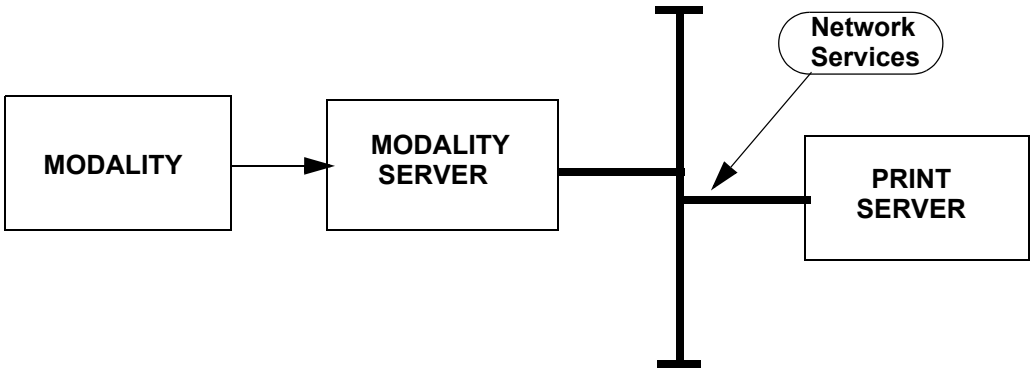
Note

The **bold** text in () is not part of the log.

11/30/01 13:09:38:818 5 [2056,01210904] [vid1] [Scorpion60ImgCapDev.cpp,1340] -Scorpion60ImageCaptureDevice Grayscale Store Start
11/30/01 13:09:38:828 5 [2056,01210904] [vid1] [ImgCapDev.cpp,221] - ImageCaptureDevice Change Operating Mode Complete
11/30/01 13:09:38:828 5 [2056,01210904] [vid1] [ImgCapDev.cpp,206] - ImageCaptureDevice Change Operating Mode Start **(VIDEO I/F BOARD is set to capture images.)**
11/30/01 13:09:38:988 5 [2051,01211160] [ ] [DiskArbiter.cpp,701] - DiskArbiter: Writing image to queue **(Image from MODALITY is to be written into queue on VIDEO I/F BOARD.)**
11/30/01 13:09:38:988 5 [2056,01210904] [vid1] [ImgCapDev.cpp,2453] - Image submittal started
11/30/01 13:09:39:018 5 [2051,01211160] [ ] [DiskArbiter.cpp,352] - DiskArbiter: Run(): done checking queue
11/30/01 13:09:39:028 5 [2051,01211160] [ ] [DiskArbiter.cpp,302] - DiskArbiter: Run(): checking queue
11/30/01 13:09:39:028 5 [2056,01210904] [vid1] [ImgCapDev.cpp,2525] - Image submittal finished
11/30/01 13:09:39:028 2 [2056,01210904] [vid1] [ImgCapDev.cpp,2406] - Image Stored Columns = 548, Rows = 512, BitsPerPixel = 8 (**STORE button on KEYPAD has been pressed.)**
11/30/01 13:09:39:028 5 [2051,01211160] [ ] [DiskArbiter.cpp,306] - DiskArbiter: Run(): popping data from queue
11/30/01 13:09:39:038 5 [2056,01210904] [vid1] [ImgCapDev.cpp,221] - ImageCaptureDevice Change Operating Mode Complete
11/30/01 13:09:39:038 5 [2051,01211160] [ ] [DiskArbiter.cpp,772] - DiskArbiter: Writing image to disk **(Image data is written onto DISK.)**
11/30/01 13:09:39:038 5 [2056,01210904] [vid1] [ImgCapDev.cpp,206] - ImageCaptureDevice Change Operating Mode Start
11/30/01 13:09:39:048 5 [2051,01211160] [ ] [DiskArbiter.cpp,352] - DiskArbiter: Run(): done checking queue
11/30/01 13:09:39:048 5 [2056,01210904] [vid1] [Scorpion60ImgCapDev.cpp,1491] - Scorpion60ImageCaptureDevice Grayscale Store Complete **(Image storage is complete.)**
11/30/01 13:09:39:058 5 [2051,01211160] [ ] [DiskArbiter.cpp,302] - DiskArbiter: Run(): checking queue
11/30/01 13:09:53:539 5 [2056,01210904] [vid1] [Scorpion60ImgCapDev.cpp,1340] - Scorpion60ImageCaptureDevice Grayscale Store Start
11/30/01 13:09:53:549 5 [2056,01210904] [vid1] [ImgCapDev.cpp,221] - ImageCaptureDevice Change Operating Mode Complete
11/30/01 13:09:53:549 5 [2056,01210904] [vid1] [ImgCapDev.cpp,206] - ImageCaptureDevice Change Operating Mode Start **(Start image transfer process again.**)
11/30/01 13:09:53:700 5 [2056,01210904] [vid1] [ImgCapDev.cpp,2453] - Image submittal started
11/30/01 13:09:53:700 5 [2051,01211160] [ ] [DiskArbiter.cpp,701] - DiskArbiter: Writing image to queue
11/30/01 13:09:53:740 5 [2051,01211160] [ ] [DiskArbiter.cpp,302] - DiskArbiter: Run(): checking queue
11/30/01 13:09:53:740 5 [2056,01210904] [vid1] [ImgCapDev.cpp,2525] - Image submittal finished
11/30/01 13:09:53:740 5 [2051,01211160] [ ] [DiskArbiter.cpp,352] - DiskArbiter: Run(): done checking queue
11/30/01 13:09:53:750 5 [2051,01211160] [ ] [DiskArbiter.cpp,306] - DiskArbiter: Run(): popping data from queue
11/30/01 13:09:53:750 5 [2056,01210904] [vid1] [ImgCapDev.cpp,206] - ImageCaptureDevice Change Operating Mode Start

11/30/01 13:09:53:750 2 [2056,01210904] [vid1] [ImgCapDev.cpp,2406] - Image Stored Columns = 548, Rows = 512, BitsPerPixel = 8
11/30/01 13:09:53:760 5 [2051,01211160] [ ] [DiskArbiter.cpp,772] - DiskArbiter: Writing image to disk
11/30/01 13:09:53:760 5 [2056,01210904] [vid1] [Scorpion60ImgCapDev.cpp,1491] - Scorpion60ImageCaptureDevice Grayscale Store Complete
11/30/01 13:09:53:760 5 [2056,01210904] [vid1] [ImgCapDev.cpp,221] - ImageCaptureDevice Change Operating Mode Complete
11/30/01 13:09:53:770 5 [2051,01211160] [ ] [DiskArbiter.cpp,302] - DiskArbiter: Run(): checking queue
11/30/01 13:09:53:770 5 [2051,01211160] [ ] [DiskArbiter.cpp,352] - DiskArbiter: Run(): done checking queue
11/30/01 13:09:59:398 5 [2017,00000278] [vid1] [ImagePixelVersion.cpp,716] - ImagePixelVersion::GetImageData Stop
11/30/01 13:09:59:398 5 [2017,00000278] [vid1] [ImagePixelVersion.cpp,683] - ImagePixelVersion::GetImageData Start
11/30/01 13:10:00:149 5 [2017,00000279] [vid1] [ImagePixelVersion.cpp,683] - ImagePixelVersion::GetImageData Start
11/30/01 13:10:00:159 5 [2017,00000279] [vid1] [ImagePixelVersion.cpp,716] - ImagePixelVersion::GetImageData Stop
(End of log.)

Sample Log 3 - MODALITY SERVER to PRINT SERVER - This log monitors input from a DICOM SCU to an SCP for printing. It has been filtered to include only the log for the **Network Services Subsystem**, set at level 5. (All other subsystems are set at 0.)



11/29/01 13:32:38:839 5 [ ] [MIMPrintAcse.cpp,836] - SCP Assoc#4:===> NEW CONNECTION OPENED
11/29/01 13:32:38:859 5 [ ] MIMPrintAcse.cpp,840] - SCP Assoc#4: SCU/Modality AE Title = MIMP
11/29/01 13:32:38:889 5 [ ] [MIMPrintAcse.cpp,845] - SCP Assoc#4: SCU/Host IP Address = 149.98.199.86
11/29/01 13:32:38:919 5 [ ] [MIMPrintAcse.cpp,846] - SCP Assoc#4: SCU/Implement Version Name =
11/29/01 13:32:38:939 5 [ ] [MIMPrintAcse.cpp,847] - SCP Assoc#4: SCU/Implement UID = 1.2.840.113564.3.1.3
11/29/01 13:32:38:970 5 [ ] [MIMPrintAcse.cpp,1466] - SCP Assoc#4: Destination AE Title = MIM
11/29/01 13:32:39:000 5 [ ] [MIMPrintAcse.cpp,1504] - SCP Assoc#4: Destination Name = MIM
11/29/01 13:32:39:030 5 [ ] [MIMPrintAcse.cpp,1523] - SCP Assoc#4: The Default Printer is 83
(The default printer is an 8300 LASER IMAGER.)
11/29/01 13:32:39:050 5 [ ] [MIMPrintAcse.cpp,1538] - SCP Assoc#4: No perfect Name match for MIM
11/29/01 13:32:39:080 5 [ ] [MIMPrintAcse.cpp,1603] - SCP Assoc#4: No unique ShortName match for MIM
11/29/01 13:32:39:110 5 [ ] [MIMPrintAcse.cpp,1730] - SCP Assoc#4: No unique Type match for Destination MIM
11/29/01 13:32:39:140 5 [ ] [MIMPrintAcse.cpp,1734] - SCP Assoc#4: Using the Default Printer for Destination MIM
11/29/01 13:32:39:160 5 [ ] [MIMPrintAcse.cpp,1743] - SCP Assoc#4: The Printer being used for this session is 83
11/29/01 13:32:39:270 3 [ ] [MIMPrintAcse.cpp,710] - SCP Assoc#4: Verification SOP negotiated.
11/29/01 13:32:39:300 3 [ ] [MIMPrintAcse.cpp,694] - SCP Assoc#4: Basic Grayscale Print Meta SOP negotiated.
11/29/01 13:32:39:330 3 [ ] [MIMPrintAcse.cpp,706] - SCP Assoc#4: Presentation LUT SOP negotiated.
11/29/01 13:32:39:360 2 [ ] [MIMDicomDevice.cpp,59] - SCP Assoc#4 Up for 83 from modality MIMP
(At this point, "negotiation" between Mod Server and Print Server has been completed. A film session to print to an 8300 from Print Server MIMP will now be created.)
11/29/01 13:32:39:711 5 [DICOM] [PrintSCPService.cpp,1670] - SCP Assoc#4: Creating Film Session (FS) [N-CREATE] (Begin to set parameters for the film session.)
11/29/01 13:32:39:761 5 [DICOM] [PrintSCPService.cpp,1689] - SCP Assoc#4: FS default Contrast: 0 (from Connection DB)
11/29/01 13:32:39:831 5 [DICOM] [PrintSCPService.cpp,1746] - SCP Assoc#4: FS default Modality: CT (from DICOM)
11/29/01 13:32:39:891 5 [DICOM] [PrintSCPService.cpp,1817] - SCP Assoc#4: Setting Film Session (FS) [N-SET]
11/29/01 13:32:39:921 5 [DICOM] [PrintSCPService.cpp,1826] - SCP Assoc#4: FS Copies: 1
11/29/01 13:32:39:961 5 [DICOM] [PrintSCPService.cpp,1888] - SCP Assoc#4: FS Print Priority: MED
11/29/01 13:32:39:991 5 [DICOM] [PrintSCPService.cpp,1982] - SCP Assoc#4: FS Using FilmBase from Connection DB
11/29/01 13:32:40:021 5 [DICOM] [PrintSCPService.cpp,2002] - SCP Assoc#4: FS Value received for FilmBase was BLUE FILM

11/29/01 13:32:40:321 5 [DICOM] [PrintSCPService.cpp,3753] - SCP Assoc#4: Sending Printer SOP [N-GET]

11/29/01 13:32:40:352 5 [DICOM] [PrintSCPService.cpp,3792] - SCP Assoc#4: Sending status for 83=> Severity:NORMAL Status:NORMAL. (N-Get)

11/29/01 13:32:40:692 5 [DICOM] [PrintSCPService.cpp,2193] - SCP Assoc#4: Creating Film Box (FB) [N-CREATE] **(Begin to set parameters for the film box.)**

11/29/01 13:32:40:772 5 [DICOM] [PrintSCPService.cpp,2234] - SCP Assoc#4: FB get FilmSize from ConnectionDB = 14INX17IN

11/29/01 13:32:40:802 5 [DICOM] [PrintSCPService.cpp,2265] - SCP Assoc#4: FB get FilmSize from Dicom = 8INX10IN

11/29/01 13:32:40:842 5 [DICOM] [PrintSCPService.cpp,2302] - SCP Assoc#4: FB Using FilmSize from Dicom

11/29/01 13:32:40:872 5 [DICOM] [PrintSCPService.cpp,2317] - SCP Assoc#4: FB Checking the FilmSize value of 8INX10IN

11/29/01 13:32:40:962 5 [DICOM] [PrintSCPService.cpp,2426] - SCP Assoc#4: FB Using FilmType of 8INX10IN with Base of BLUE FILM

11/29/01 13:32:41:002 5 [DICOM] [PrintSCPService.cpp,2445] - SCP Assoc#4: FB Film Orientation: PORTRAIT

11/29/01 13:32:41:032 5 [DICOM] [PrintSCPService.cpp,2505] - SCP Assoc#4: FB Image Display Format: STANDARD\2,2

11/29/01 13:32:41:063 5 [DICOM] [PrintSCPService.cpp,2560] - SCP Assoc#4: FB Contrast: 0 (from Connection DB)

11/29/01 13:32:41:103 5 [DICOM] [PrintSCPService.cpp,2576] - SCP Assoc#4: FB Set default contrast to 0

11/29/01 13:32:41:263 5 [DICOM] [PrintSCPService.cpp,2772] - SCP Assoc#4: FB Max Density: 3.99 (from Connection DB)

11/29/01 13:32:41:333 2 [DICOM] [PrintSCPService.cpp,2796] - SCP Assoc#4: FB all DRYVIEW use Min Density of 0.21

11/29/01 13:32:41:383 5 [DICOM] [PrintSCPService.cpp,2884] - SCP Assoc#4: FB Border Density: BLACK

11/29/01 13:32:41:443 5 [DICOM] [PrintSCPService.cpp,2981] - SCP Assoc#4: FB Trim: NO

11/29/01 13:32:41:473 4 [DICOM] [PrintSCPService.cpp,3056] - SCP Assoc#4: FB Configuration Information: LUT=VER693C0.W87,006

11/29/01 13:32:41:503 3 [DICOM] [PrintSCPService.cpp,3356] - SCP Assoc#4: FB set to TFT by default

11/29/01 13:32:41:533 5 [DICOM] [PrintSCPService.cpp,3380] - SCP Assoc#4: FB Magnification Type: CUBIC

11/29/01 13:32:41:563 5 [DICOM] [PrintSCPService.cpp,3392] - SCP Assoc#4: FB Smoothing Type: 15

11/29/01 13:32:41:633 5 [DICOM] [PrintSCPService.cpp,3497] - SCP Assoc#4: FB Illumination: 2000

11/29/01 13:32:41:683 5 [DICOM] [PrintSCPService.cpp,3526] - SCP Assoc#4: FB Reflected Ambient Light: 10

11/29/01 13:32:42:084 5 [DICOM] [MIMPresentationLUTSCP.cpp,118] - SCP Assoc#4: PLUT Creating Presentation LUT (PLUT) [N-CREATE]

11/29/01 13:32:42:154 5 [DICOM] [MIMPresentationLUTSCP.cpp,274] - SCP Assoc#4: PLUT uid:1.2.840.113564.3.5040.2001.11.29.13.32.21.39

11/29/01 13:32:42:625 5 [DICOM] [PrintSCPService.cpp,848] - SCP Assoc#4: Setting Image Box (IB) for Position 1 [N-SET] **(Begin to set parameters for the image box in position 1 of the film box.)**

11/29/01 13:32:42:655 5 [DICOM] [PrintSCPService.cpp,3566] - SCP Assoc#4: IB Rows: 480

11/29/01 13:32:42:685 5 [DICOM] [PrintSCPService.cpp,3576] - SCP Assoc#4: IB Columns: 748

11/29/01 13:32:42:715 5 [DICOM] [PrintSCPService.cpp,3583] - SCP Assoc#4: IB Bits Allocated: 8

11/29/01 13:32:42:745 5 [DICOM] [PrintSCPService.cpp,3601] - SCP Assoc#4: IB Bits Per Pixel 0 (stored): 8

11/29/01 13:32:42:775 5 [DICOM] [PrintSCPService.cpp,3632] - SCP Assoc#4: IB High Bit: 7

11/29/01 13:32:42:805 5 [DICOM] [PrintSCPService.cpp,3649] - SCP Assoc#4: IB Pixel Aspect Ratio: 13:15

11/29/01 13:32:42:835 5 [DICOM] [PrintSCPService.cpp,3679] - SCP Assoc#4: IB Photometric Interpretation: MONOCHROME2

11/29/01 13:32:42:885 5 [DICOM] [PrintSCPService.cpp,1166] - SCP Assoc#4: IB Polarity: NORMAL (from Dicom)

11/29/01 13:32:42:915 5 [DICOM] [PrintSCPService.cpp,1197] - SCP Assoc#4: IB Magnification Type: CUBIC

11/29/01 13:32:42:945 5 [DICOM] [PrintSCPService.cpp,1215] - SCP Assoc#4: IB Smoothing Type: 15

11/29/01 13:32:42:975 4 [DICOM] [PrintSCPService.cpp,1333] - SCP Assoc#4: IB Configuration Information: LUT=Ver693c0.w87,006

11/29/01 13:32:43:005 3 [DICOM] [PrintSCPService.cpp,1452] - SCP Assoc#4: IB Set TFT: Ver693c0.w87

11/29/01 13:32:43:035 5 [DICOM] [PrintSCPService.cpp,1453] - SCP Assoc#4: IB Set Dry Contrast: 6

11/29/01 13:32:43:065 5 [DICOM] [PrintSCPService.cpp,1515] - SCP Assoc#4: IB Body Part: DEFAULT (from Connection DB)

11/29/01 13:32:43:156 5 [DICOM] [PrintSCPService.cpp,1583] - SCP Assoc#4: IB Color Profile: @DEF0 (from Connection DB)

11/29/01 13:32:43:196 5 [DICOM] [PrintSCPService.cpp,1616] - SCP Assoc#4: IB Image Tone Adjustment: 0 (from Connection DB)

11/29/01 13:32:43:246 5 [DICOM] [PrintSCPService.cpp,1040] - SCP Assoc#4: IB found an Image's PLUT

11/29/01 13:32:43:276 5 [DICOM] [PrintSCPService.cpp,1063] - SCP Assoc#4: IB uses PLUT uid: 1.2.840.113564.3.5040.2001.11.29.13.32.21.39

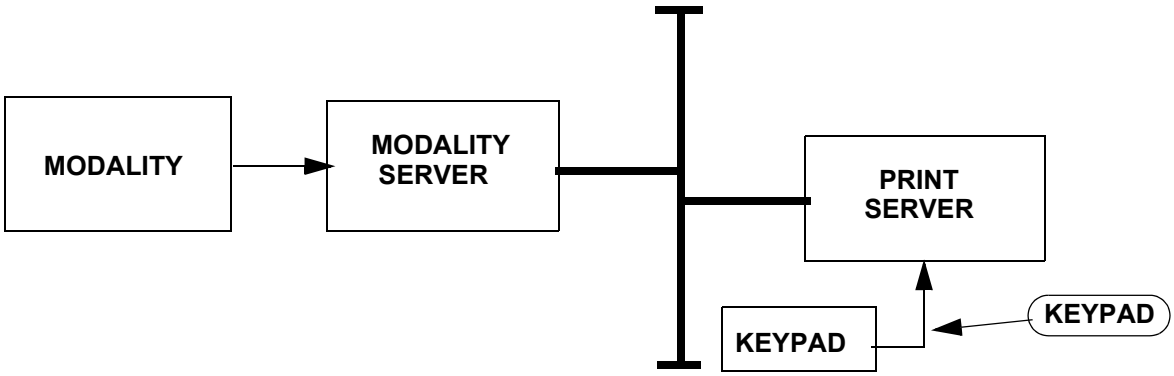
11/29/01 13:32:43:596 5 [DICOM] [PrintSCPService.cpp,677] - SCP Assoc#4: Printing Film Box (FB) [N-ACTION] (Print the film box.)

11/29/01 13:32:43:806 5 [DICOM] [PrintSCPService.cpp,375] - SCP Assoc#4: Deleting Film Session (FS) [N-DELETE] **(Close the film session.)**

11/29/01 13:32:43:957 2 [ ] [MIMDicomDevice.cpp,78] - SCP Assoc#4 Down

(End of log.)

Sample Log 4 - DISPLAY KEYPAD to PRINT SERVER - This log includes communication and keystrokes between a DISPLAY KEYPAD and a MIM SCP. It has been filtered to include only the log for the **Keypad Subsystem**. All other logs are set to 0 level.



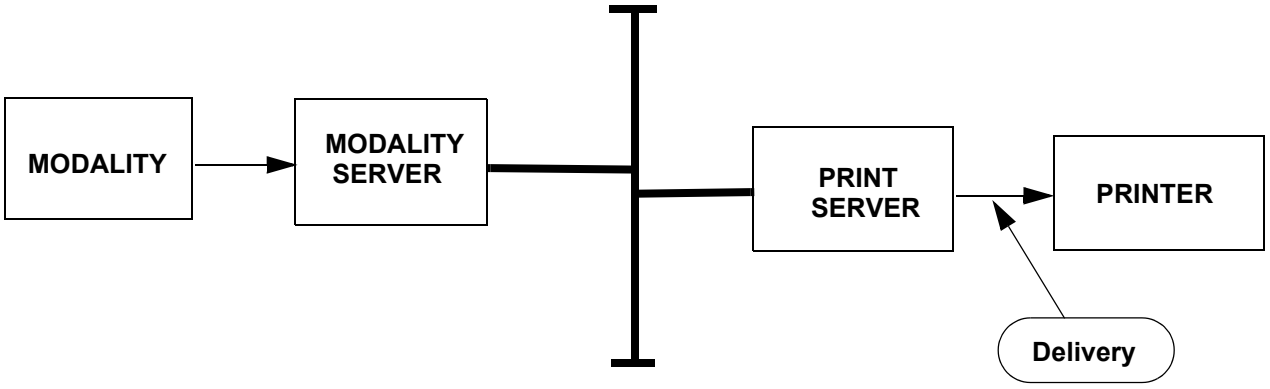
11/29/01 13:36:29:371 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x41 from the frame processor.
11/29/01 13:36:29:401 6 [DICOM] [CKScreen.cpp,374] - CKScreen::OnDownButtonPressed() called.
11/29/01 13:36:29:551 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffc1 from the frame processor.
11/29/01 13:36:32:135 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x38 from the frame processor.
11/29/01 13:36:32:185 6 [DICOM] [CKMenuScreen.cpp,52] - CKMenuScreen constructor called.
11/29/01 13:36:32:215 6 [DICOM] [CKMenuScreen.cpp,2727] - CKSDisplayJobs constructor called.
11/29/01 13:36:32:355 6 [DICOM] [CKMenuScreen.cpp,3399] - CKSDisplayActiveJobs constructor called.
11/29/01 13:36:32:385 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0xb8 from the frame processor.
11/29/01 13:36:32:425 4 [DICOM] [ConventionalKeypad.cpp,468] - Unknown command received. (0xb8)
11/29/01 13:36:36:050 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x38 from the frame processor.
11/29/01 13:37:00:205 7 [DICOM] [CKMainDisplayScreen.cpp,88] - CK MainDisplayScreen::OnMenuSelect() called.
11/29/01 13:37:00:245 6 [DICOM] [CKMenuScreen.cpp,52] - CKMenuScreen constructor called.
11/29/01 13:37:00:285 6 [DICOM] [CKMenuScreen.cpp,1037] - CKSMainMenu constructor called.
11/29/01 13:37:03:129 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x41 from the frame processor.
11/29/01 13:37:03:169 6 [DICOM] [CKScreen.cpp,374] - CKScreen::OnDownButtonPressed() called.
11/29/01 13:37:03:340 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffc1 from the frame processor.
11/29/01 13:37:04:832 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x39 from the frame processor.
11/29/01 13:37:04:872 6 [DICOM] [CKScreen.cpp,327] - CKScreen::OnUpButtonPressed() called.
11/29/01 13:37:05:042 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffb9 from the frame processor.
11/29/01 13:37:06:364 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x41 from the frame processor.
11/29/01 13:37:06:404 6 [DICOM] [CKScreen.cpp,374] - CKScreen::OnDownButtonPressed() called.
11/29/01 13:37:06:574 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffc1 from the frame processor.
11/29/01 13:37:07:175 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x39 from the frame processor.
11/29/01 13:37:07:215 6 [DICOM] [CKScreen.cpp,327] - CKScreen::OnUpButtonPressed() called.
11/29/01 13:37:07:385 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffb9 from the frame processor.
11/29/01 13:37:18:001 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x41 from the frame processor.
11/29/01 13:37:18:031 6 [DICOM] [CKScreen.cpp,374] - CKScreen::OnDownButtonPressed() called.
11/29/01 13:37:18:181 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffc1 from the frame processor.
11/29/01 13:37:19:783 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x38 from the frame processor.
11/29/01 13:37:19:813 6 [DICOM] [CKMenuScreen.cpp,52] - CKMenuScreen constructor called.
11/29/01 13:37:19:853 6 [DICOM] [CKSServiceMenu.cpp,62] - CKSServiceMenu constructor called.
11/29/01 13:37:20:004 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0xb8 from the frame processor.
11/29/01 13:37:20:044 4 [DICOM] [ConventionalKeypad.cpp,468] - Unknown command received. (0xb8)
11/29/01 13:37:24:901 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x41 from the frame processor.
11/29/01 13:37:24:941 6 [DICOM] [CKScreen.cpp,374] - CKScreen::OnDownButtonPressed() called.
11/29/01 13:37:25:111 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffc1 from the frame processor.

11/29/01 13:37:26:273 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x38 from the frame processor.
11/29/01 13:37:26:313 6 [DICOM] [CKMenuScreen.cpp,52] - CKMenuScreen constructor called.
11/29/01 13:37:26:343 7 [DICOM] [CKSServiceMenu.cpp,196] - CKSMachineSetupMenu constructor called.
11/29/01 13:37:26:473 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0xb8 from the frame processor.
11/29/01 13:37:26:513 4 [DICOM] [ConventionalKeypad.cpp,468] - Unknown command received. (0xb8)
11/29/01 13:37:29:988 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x41 from the frame processor.
11/29/01 13:37:30:018 6 [DICOM] [CKScreen.cpp,374] - CKScreen::OnDownButtonPressed() called.
11/29/01 13:37:30:178 6 [DICOM] [ConventionalKeypad.cpp,1504] - CK received the command 0xffffffc1 from the frame processor.
11/29/01 13:37:31:210 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x38 from the frame processor.
11/29/01 13:37:31:250 6 [DICOM] [CKMenuScreen.cpp,52] - CKMenuScreen constructor called.
11/29/01 13:37:31:290 6 [DICOM] [CKSServiceMenu.cpp,898] - CKSSystemInfo constructor called.
11/29/01 13:37:31:450 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0xb8 from the frame processor.
11/29/01 13:37:31:490 4 [DICOM] [ConventionalKeypad.cpp,468] - Unknown command received. (0xb8)
11/29/01 13:37:36:527 6 [DICOM] [ConventionalKeypad.cpp,355] - CK received the command 0x38 from the frame processor.
11/29/01 13:37:36:567 6 [DICOM] [CKSServiceMenu.cpp,1059] - CKSSystemInfo destructor called.
11/29/01 13:37:36:608 6 [DICOM] [CKMenuScreen.cpp,567] - CKDisplayScreen destructor called.
11/29/01 13:37:36:638 6 [DICOM] [CKMenuScreen.cpp,77] - CKMenuScreen destructor called.
(Log continues....)

Sample Log 5 - MIM Storage - This log indicates the storage space available on the MIM, and any storage algorithms that are being implemented. It has been filtered to include only the **Storage Subsystem**, at log level 5.

11/29/01 13:42:10:692 6 [ ] [DatabasePersistence.cpp,2892] - Storage Recovery, Available Disk Space : 100%
11/29/01 13:42:40:725 6 [ ] [DatabasePersistence.cpp,2892] - Storage Recovery, Available Disk Space : 100%
11/29/01 13:43:10:808 6 [ ] [DatabasePersistence.cpp,2892] - Storage Recovery, Available Disk Space : 100%
11/29/01 13:43:40:811 6 [ ] [DatabasePersistence.cpp,2892] - Storage Recovery, Available Disk Space : 100%
(End of Log.)

Sample Log 6 - PRINT SERVER to PRINTER - This log is for "delivery" from an SCP to a destination. It has been filtered to include only the log for the **Delivery Subsystem**, set at level 5. This subsystem does not show all communication between the MIM and the PRINTER, but only internal processing such as image rendering in the MIM.

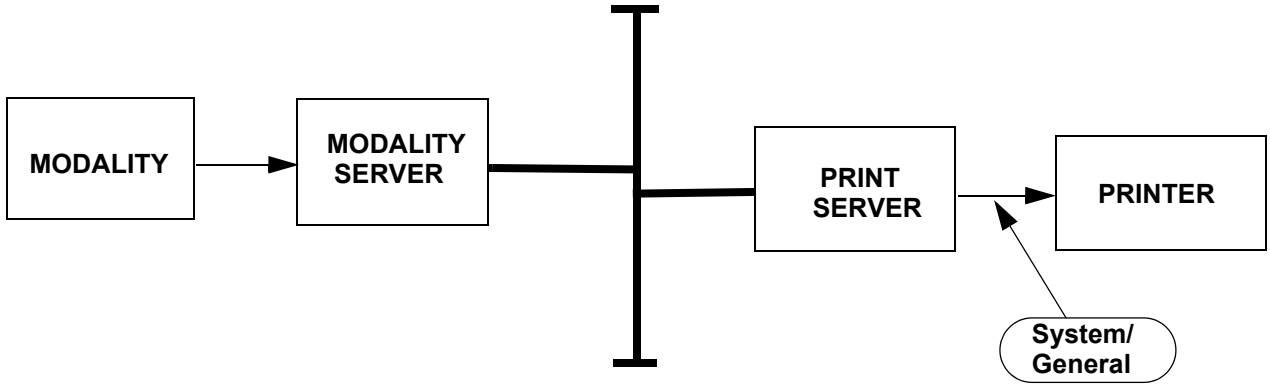


11/29/01 13:46:18:959 2 [DICOM] [RoutingAndDeliveryFactory.cpp,744] - Entering CreateOneShotRouting.
11/29/01 13:46:18:989 3 [DICOM] [RoutingClass.cpp,10789] - RoutingContext ctor
11/29/01 13:46:19:129 3 [DICOM] [RoutingClass.cpp,10838] - context State = EXECUTING
11/29/01 13:46:19:189 5 [DICOM] [Page.cpp,1122] - Entering Page::SetContrastSetting()
11/29/01 13:46:19:870 4 [DICOM] [RoutingClass.cpp,9021] - Routing::SetStandardFormat()
11/29/01 13:46:19:980 4 [DICOM] [RoutingClass.cpp,9021] - Routing::SetStandardFormat()
11/29/01 13:46:20:050 4 [DICOM] [RoutingClass.cpp,4556] - Handling: SetPageOrientation()
11/29/01 13:46:20:080 4 [DICOM] [RoutingClass.cpp,4556] - Handling: SetPageOrientation()
11/29/01 13:46:20:100 5 [DICOM] [Page.cpp,1122] - Entering Page::SetContrastSetting()
11/29/01 13:46:20:140 2 [DICOM] [Page.cpp,3522] - Set a Pivot Density to DRYVIEW type. Action is complete but has no effect.
11/29/01 13:46:20:190 4 [DICOM] [RoutingClass.cpp,9021] - Routing::SetStandardFormat()
11/29/01 13:46:20:291 4 [DICOM] [RoutingClass.cpp,4556] - Handling: SetPageOrientation()
11/29/01 13:46:21:923 2 [DICOM] [Page.cpp,546] - Page Closed.

11/29/01 13:46:21:973 1 [DICOM] [DeliveryJob.cpp,774] - PrintPages
11/29/01 13:46:22:023 3 [DICOM] [DeliveryJob.cpp,2315] - #11 rcs 0 2 2 ImageStored
11/29/01 13:46:22:053 4 [DICOM] [DeliveryJob.cpp,2870] - DeliveryJob state = PJ_CLOSED
11/29/01 13:46:22:103 3 [DICOM] [DeliveryJob.cpp,2315] - #11 rcs 1 1 0 PageClosed
11/29/01 13:46:22:153 3 [DICOM] [DeliveryJob.cpp,2315] - #11 rcs 1 4 15 DocumentClosed
11/29/01 13:46:22:183 5 [DICOM] [DeliveryJob.cpp,513] - Queueing DOCUMENT
11/29/01 13:46:22:203 4 [DICOM] [DeliveryJob.cpp,2870] - DeliveryJob state = PJ_REQ_ACTIVATION
11/29/01 13:46:22:243 2 [DICOM] [NetworkArbiter.cpp,269] - NetworkArbiter::QueueAdd - 83 is activating
11/29/01 13:46:22:263 3 [ ] [DestinationState.cpp,93] - RCS NextState = READY JOBREADY 3 PRINTING
11/29/01 13:46:22:293 5 [ ] [DestinationState.cpp,466] - NotifyPermanent
11/29/01 13:46:22:374 4 [DICOM] [DeliveryJob.cpp,2870] - DeliveryJob state = ACTIVATED_STUDY
11/29/01 13:46:22:434 2 [ ] [MIMDryViewPrintInterface.cpp,2120] - DVPI::init()
11/29/01 13:46:22:464 5 [DICOM] [DeliveryJob.cpp,2104] - Giving printer DOCUMENT
11/29/01 13:46:22:494 2 [ ] [MIMDryViewPrintInterface.cpp,640] - DVPI::sendDocument() start
11/29/01 13:46:22:524 3 [ ] [MIMDryViewPrintInterface.cpp,641] - DVPI::Job # = 11
11/29/01 13:46:22:574 4 [DICOM] [RoutingClass.cpp,1201] - Routing EndOfExam()
11/29/01 13:46:22:594 3 [DICOM] [RoutingClass.cpp,10838] - context State = END_OF_EXAM
11/29/01 13:46:22:624 3 [ ] [PhotonDeliveryJob.cpp,120] - complete job #10
11/29/01 13:46:22:664 4 [ ] [DeliveryJob.cpp,1254] - send complete to routing
11/29/01 13:46:22:694 5 [DICOM] [RoutingClass.cpp,10917] - Entering JobComplete()
11/29/01 13:46:22:714 5 [DICOM] [RoutingClass.cpp,11019] - JobComplete() - this routing is still in use
11/29/01 13:46:22:744 5 [ ] [Destination.cpp,1325] - Destination handling JobComplete
11/29/01 13:46:22:774 5 [ ] [Destination.cpp,1360] - JobComplete is adding job 10 to the to-be-deleted list
11/29/01 13:46:22:804 4 [ ] [DeliveryJob.cpp,2870] - DeliveryJob state = ACTIVATED_STUDY
11/29/01 13:46:23:876 3 [ ] [MIMDryViewPrintInterface.cpp,680] - DVPI::Unknown Currently Loaded Film Type, Ignored
11/29/01 13:46:23:906 3 [ ] [MIMDryViewPrintInterface.cpp,691] - DVPI::pageCount = 1
11/29/01 13:46:23:936 3 [ ] [MIMDryViewPrintInterface.cpp,696] - DVPI::numCopies = 1
11/29/01 13:46:23:966 2 [ ] [MIMDryViewPrintInterface.cpp,755] - DVPI::UnCollated Printing!
11/29/01 13:46:23:996 4 [ ] [MIMDryViewPrintInterface.cpp,467] - Render the page: smoothing number is out of range for 8300/8610
11/29/01 13:46:24:026 2 [ ] [MIMDryViewPrintInterface.cpp,775] - DVPI::PATH 3: PAGE BUILDER, Images are processed and resized, retry = 1
11/29/01 13:46:24:056 2 [ ] [MIMDryViewPrintInterface.cpp,1197] - DVPI::printPageWithPageBuilder() start
11/29/01 13:46:24:096 4 [ ] [ChainBuilder.cpp,123] - ChainBuilder constructed
11/29/01 13:46:24:116 4 [ ] [DryViewChainBuilder.cpp,61] - DryViewChainBuilder constructed
11/29/01 13:46:24:146 4 [ ] [TonescaleResolver.cpp,473] - TonescaleResolve - PLUT : TonescaleResolver Constructed
11/29/01 13:46:24:176 4 [ ] [TonescaleResolver.cpp,313] - TonescaleResolve - PLUT : PrinterTonescaleResol Constructed
11/29/01 13:46:24:206 4 [ ] [PageBuilder.cpp,105] - PageBuilder constructed
11/29/01 13:46:24:236 4 [ ] [PageBuilder.cpp,1408] - SetPrinterDensity: 3.,0.21
11/29/01 13:46:24:266 3 [DICOM] [FormatValidator.cpp,3675] - ... Row 1, Column 1: Image X Position..... 0
11/29/01 13:46:24:296 3 [DICOM] [FormatValidator.cpp,3676] - ... Row 1, Column 1: Image Y Position..... 251
11/29/01 13:46:24:326 3 [DICOM] [FormatValidator.cpp,3677] - ... Row 1, Column 1: Image Scale Factor..... 1.49198
11/29/01 13:46:24:356 3 [DICOM] [FormatValidator.cpp,3678] - ... Row 1, Column 1: Image Width..... 1116
11/29/01 13:46:24:386 3 [DICOM] [FormatValidator.cpp,3679] - ... Row 1, Column 1: Image Height..... 826
11/29/01 13:46:24:667 3 [DICOM] [ImageBox.cpp,2255] - Accept a valid PLUT of size:256
11/29/01 13:46:24:727 3 [DICOM] [FormatValidator.cpp,3675] - ... Row 1, Column 1: Image X Position..... 0
11/29/01 13:46:24:757 3 [DICOM] [FormatValidator.cpp,3676] - ... Row 1, Column 1: Image Y Position..... 251
11/29/01 13:46:24:787 3 [DICOM] [FormatValidator.cpp,3677] - ... Row 1, Column 1: Image Scale Factor..... 1.49198
11/29/01 13:46:24:807 3 [DICOM] [FormatValidator.cpp,3678] - ... Row 1, Column 1: Image Width..... 1116
11/29/01 13:46:24:847 3 [DICOM] [FormatValidator.cpp,3679] - ... Row 1, Column 1: Image Height..... 826
11/29/01 13:46:24:877 4 [ ] [DryViewChainBuilder.cpp,154] - PhotometricInterpretation: 1
11/29/01 13:46:24:897 4 [ ] [DryViewChainBuilder.cpp,155] - Polarity: 0
11/29/01 13:46:24:927 4 [ ] [ChainBuilder.cpp,453] - Input Bit Depth: 8
11/29/01 13:46:24:957 4 [ ] [ChainBuilder.cpp,461] - WindowWidth: 256
11/29/01 13:46:24:987 4 [ ] [ChainBuilder.cpp,462] - WindowLevel: 128

11/29/01 13:46:25:508 3 [DICOM] [FormatValidator.cpp,3707] - Getting image annotation box information. Row = 1 Column = 1
11/29/01 13:46:25:538 3 [DICOM] [FormatValidator.cpp,3828] - Checking for image annotations...
11/29/01 13:46:25:568 3 [ ] [MIMDryViewPrintInterface.cpp,1276] - DVPI::m_pLaserImager->NewPrintJob()
11/29/01 13:46:25:598 3 [ ] [MIMDryViewPrintInterface.cpp,1312] - DVPI::Film Destination is not supported, MAGAZINE is used
11/29/01 13:46:25:628 3 [ ] [MIMDryViewPrintInterface.cpp,1336] - DVPI::pDVPrintJob->SetJobInfo()
11/29/01 13:46:26:850 2 [ ] [MIMDryViewPrintInterface.cpp,1689] - DVPI::placeRenderedImage() start
11/29/01 13:46:26:880 3 [ ] [MIMDryViewPrintInterface.cpp,1692] - DVPI::pDVPrintJob->NewImageBox()
11/29/01 13:46:26:910 3 [ ] [MIMDryViewPrintInterface.cpp,1728] - DVPI::Kernel Group is set to 2
11/29/01 13:46:26:940 3 [ ] [MIMDryViewPrintInterface.cpp,1729] - DVPI::InterpolationNumber is set to 1
11/29/01 13:46:26:970 3 [ ] [MIMDryViewPrintInterface.cpp,1734] - DVPI::Modality Group is set to 1
11/29/01 13:46:27:000 3 [ ] [MIMDryViewPrintInterface.cpp,1735] - DVPI::Contrast is set to 6
11/29/01 13:46:27:040 3 [ ] [MIMDryViewPrintInterface.cpp,1746] - DVPI::pDVImageBox->SetImageInfo()
11/29/01 13:46:27:441 3 [ ] [MIMDryViewPrintInterface.cpp,1768] - DVPI::pDVImageBox->PrintData(pRiROMem)
11/29/01 13:46:34:912 2 [ ] [MIMDryViewPrintInterface.cpp,1777] - DVPI::placeRenderedImage() end
11/29/01 13:46:36:103 2 [ ] [MIMDryViewPrintInterface.cpp,1365] - DVPI::printPageWithPageBuilder() end. DVPS JobID[0] has been sent to the printer.
11/29/01 13:46:36:133 4 [DICOM] [PageBuilder.cpp,116] - PageBuilder destructed
11/29/01 13:46:36:163 4 [ ] [DryViewChainBuilder.cpp,72] - DryViewChainBuilder destructed
11/29/01 13:46:36:203 4 [ ] [TonescaleResolver.cpp,486] - TonescaleResolve - PLUT : TonescaleResolver Destructed
11/29/01 13:46:36:233 4 [ ] [TonescaleResolver.cpp,328] - TonescaleResolve - PLUT : PrinterTonescaleResolver Destructed
11/29/01 13:46:36:263 4 [ ] [ChainBuilder.cpp,141] - ChainBuilder destructed
11/29/01 13:46:36:294 2 [ ] [MIMDryViewPrintInterface.cpp,800] - DVPI::UnCollated Printing Complete!
11/29/01 13:46:36:324 2 [ ] [MIMDryViewPrintInterface.cpp,802] - DVPI::sendDocument() end
11/29/01 13:46:36:354 3 [DICOM] [PhotonDeliveryJob.cpp,120] - complete job #11
11/29/01 13:46:36:404 4 [DICOM] [DeliveryJob.cpp,1254] - send complete to routing
11/29/01 13:46:36:434 5 [DICOM] [RoutingClass.cpp,10917] - Entering JobComplete()
11/29/01 13:46:36:464 2 [DICOM] [RoutingClass.cpp,10966] - JobComplete #11- PJ_FINISHED
11/29/01 13:46:36:494 3 [DICOM] [RoutingClass.cpp,8309] - ContextFinished()
11/29/01 13:46:36:524 5 [DICOM] [RoutingClass.cpp,696] - Entering DeActivate()
11/29/01 13:46:36:554 3 [DICOM] [RoutingClass.cpp,10838] - context State = IDLE
11/29/01 13:46:36:584 2 [DICOM] [RoutingClass.cpp,735] - JobComplete - PJ_IDLE
11/29/01 13:46:36:614 2 [ ] [RoutingAndDeliveryFactory.cpp,1804] - RemoveRouting
11/29/01 13:46:36:644 3 [DICOM] [RoutingClass.cpp,10799] - RoutingContext dtor
11/29/01 13:46:36:674 5 [DICOM] [DeliveryJob.cpp,513] - Queueing DONE
11/29/01 13:46:36:704 5 [DICOM] [Destination.cpp,1325] - Destination handling JobComplete
11/29/01 13:46:36:784 2 [ ] [MIMDryViewPrintInterface.cpp,2125] - DVPI::release()
11/29/01 13:46:36:824 3 [ ] [DeliveryJob.cpp,396] - DeliveryJob Destructing - job #10 address = 0x03467E70
11/29/01 13:46:36:864 5 [DICOM] [DeliveryJob.cpp,2104] - Giving printer DONE
11/29/01 13:46:36:904 3 [ ] [DestinationState.cpp,93] - RCS NextState = PRINTING JOB_FIN 11 READY
11/29/01 13:46:36:934 5 [ ] [DestinationState.cpp,466] - NotifyPermanent
11/29/01 13:46:36:995 3 [DICOM] [DeliveryJob.cpp,396] - DeliveryJob Destructing - job #11 address = 0x033AEC00
(End of log.)

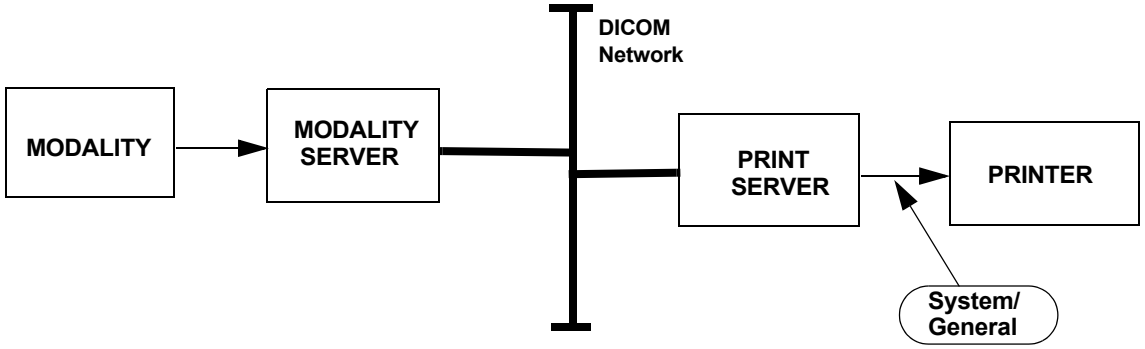
Sample Log 7 - PRINT SERVER to PRINTER (952_cmdset, Idle State)- This log is for a MIM SCP communicating with a *Kodak DryView* LASER IMAGER during an "idle" situation, using 952_cmdset. The logs have been filtered to include only the log for the **System/General Subsystem**, set at log level 6.



11/29/01 13:17:27:148 6 [ ] [LaserImager.cpp,624] - CLaserImager::PollJobStatusChange() starts -----(Begin routine to poll PRINTER status.)
11/29/01 13:17:27:178 6 [ ] [LaserImager.cpp,660] - CLaserImager::PollJobStatusChange() ends ******
11/29/01 13:17:27:218 6 [ ] [LaserImager.cpp,668] - CLaserImager::PollPrinterStatusChange() starts -----
11/29/01 13:17:27:249 6 [ ] [LaserImager.cpp,1174] - PollPrinterStatusChangeHelper() starts -----
11/29/01 13:17:27:289 6 [ ] [LaserImager.cpp,1207] - GetPrinterStatusHelper() starts -----
11/29/01 13:17:27:319 6 [ ] [LaserImager.cpp,702] - CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 7
11/29/01 13:17:27:359 6 [ ] [LaserImager.cpp,740] - Got LIT Open Mutex!
11/29/01 13:17:27:399 6 [ ] [LaserImager.cpp,745] - lit_init() is done
11/29/01 13:17:27:429 6 [ ] [LaserImager.cpp,768] - lit_open() successful
11/29/01 13:17:27:469 6 [ ] [LaserImager.cpp,770] - CLaserImager::Open() returns true ******
11/29/01 13:17:27:509 5 [ ] [m952.cpp,387] - m952_GetIMSStatus called
11/29/01 13:17:27:549 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():RQS
(Request status of the IMS in the IMAGER.)
11/29/01 13:17:27:589 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: RQS
11/29/01 13:17:27:799 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged receiving IMS status request.)11/29/01 13:17:27:829 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STA,1,RDY to packet List. #Items=1
11/29/01 13:17:27:859 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STA,1,RDY
(IMS status is "Ready.")
11/29/01 13:17:27:899 5 [ ] [m952.cpp,804] - m952_GetAvailableMemory()
11/29/01 13:17:27:930 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():INQ
(**Inquire status of memory in IMAGER.)**|
11/29/01 13:17:27:960 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: INQ
11/29/01 13:17:28:210 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged receiving inquiry.)
11/29/01 13:17:28:250 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item ANQ,504,504,0,0 to packet List. #Items=1
11/29/01 13:17:28:280 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: ANQ,504,504,0,0 **(IMAGER responded that available memory is 16 meg [504 blocks x 32K], all contiguous. with no holes or bad blocks.)**
11/29/01 13:17:28:310 5 [ ] [m952.cpp,48] - m952_GetPrinterStatus called Printer: 1
11/29/01 13:17:28:350 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():RQS
(Request status of the PRINTER.)
11/29/01 13:17:28:380 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: RQS
11/29/01 13:17:28:600 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged.)
11/29/01 13:17:28:631 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STA,1,RDY to packet List. #Items=1
11/29/01 13:17:28:671 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STA,1,RDY
(IMAGER responded that status is "Ready.")
11/29/01 13:17:28:741 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: ALI

(Allocate LASER IMAGER.)
11/29/01 13:17:28:891 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged.)
11/29/01 13:17:28:931 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:17:28:961 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS
(Command from SCP executed properly.)
11/29/01 13:17:29:001 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand(): MSZ
(Show and set the media size.)
11/29/01 13:17:29:041 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: MSZ
11/29/01 13:17:29:332 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged.)
11/29/01 13:17:29:372 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS,0810,0810,0810 to packet List. #Items=1
11/29/01 13:17:29:402 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS,0810,0810,0810
(Command executed properly. Media size is 8 x 10 inches.)
11/29/01 13:17:29:432 5 [ ] [m952.cpp,485] - m952_GetFPStatus called
11/29/01 13:17:29:462 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():RQS
(Request status of the Film Processor.)
11/29/01 13:17:29:502 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: RQS
11/29/01 13:17:29:712 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged.)
11/29/01 13:17:29:742 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STA,1,RDY to packet List. #Items=1
11/29/01 13:17:29:772 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STA,1,RDY
(Film Processor status is "Ready.")
11/29/01 13:17:29:812 6 [ ] [LaserImager.cpp,778] - CLaserImager::Close() starts, thread 0x2013929351258 ------
(Begin to close session, and print summary.)
11/29/01 13:17:29:842 6 [ ] [dim.cpp,1786] - Dim:Stop() starts ------
11/29/01 13:17:29:882 6 [ ] [SMessage.cpp,80] - in SMessage::close().
11/29/01 13:17:29:912 6 [ ] [ccpacket.cpp,845] - M952::startPacketTask. Quitting!
11/29/01 13:17:29:942 6 [ ] [SMessage.cpp,72] - in SMessage::~SMessage().
11/29/01 13:17:29:982 6 [ ] [SMessage.cpp,80] - in SMessage::close().
11/29/01 13:17:30:013 6 [ ] [dim.cpp,1288] - Dim:DeleteDataConnection() starts ------
11/29/01 13:17:30:053 6 [ ] [LaserImager.cpp,791] - CLaserImager::Close() ends ******
11/29/01 13:17:30:083 5 [ ] [LaserImager.cpp,1353] - currentFilmSize = E8X10
11/29/01 13:17:30:113 5 [ ] [LaserImager.cpp,1356] - currentFilmType = FTUnknown
11/29/01 13:17:30:143 5 [ ] [LaserImager.cpp,1358] - sheetsLeft= 99
11/29/01 13:17:30:183 5 [ ] [LaserImager.cpp,1361] - printerStatus = PR_Normal
11/29/01 13:17:30:213 5 [ ] [LaserImager.cpp,1364] - fpStatus =
11/29/01 13:17:30:243 5 [ ] [LaserImager.cpp,1367] - imsStatus = IMS_Normal
11/29/01 13:17:30:283 5 [ ] [LaserImager.cpp,1370] - availableMemory = 16515072 bytes
11/29/01 13:17:30:313 6 [ ] [LaserImager.cpp,1373] - CLaserImager::GetPrinterStatusHelper() returns S_SUCCESS ******
11/29/01 13:17:30:343 6 [ ] [LaserImager.cpp,1200] - PollPrinterStatusChangeHelper() ends ******
11/29/01 13:17:30:383 6 [ ] [LaserImager.cpp,672] - CLaserImager::PollPrinterStatusChange() ends ******
(End of log.)

Sample Log 8 - PRINT SERVER to PRINTER (952_cmdset, Job Transfer) - This log is for a MIM SCP communicating with a *Kodak DryView* LASER IMAGER during a job transfer, using 952_cmdset. The logs have been filtered to include only the log for the **System/General Subsystem**, set at level 6.



The 952 command set is used in communications with the 8100, 8300, 8600, and 8610 LASER IMAGERS. The following table includes the typical sequence of commands in a job transfer.

Autofilmer Command	LASER IMAGER Response	Function	Comment
RQS	- STA,1,RDY	Ask status of PRINTER. PRINTER is ready.	Can be sent anytime.
ALI	- PAS	Set PRINTER to 952 protocol. Command passed.	Will terminate print if sent before EXP command.
INQ	- ANQ,1024,1024,0,0	Check available memory. PRINTER reports memory size.	
AQU,1	- PAS	Acquire first image. Passed. Image acquired.	To be stored in image position 1.
AQU,2	- FAI,SET,AQU 2 ALM,68	Acquire second image. Acquire failed. Acquired timed out.	To be stored in image position 2. Host must clear alarm, reacquire.
CLA	- PAS ARS	Clear the alarm status. Command passed. All alarms reset.	- Host must wait for ARS command
DZ0,1200,6,1,0,0,0,1,D	- - PAS	Define zones, No. of images, mag., interpolation, contrast. Command passed.	Repeated for all zones on film.
STP,1,D	- STC	Start the print cycle. Print cycle successful.	
EXP	- EOE PTC	Start exposure. Image exposed. Print cycle completed.	
CLR ALL	- PAS	Clear all images. Passed. Images deleted.	

11/29/01 13:25:17:344 6 [ ] [Patient.cpp,1175] - Entering Patient::Patient(worklist,pIF)

(The following lines obtain patient data to be delivered with the print job.)

11/29/01 13:25:17:375 6 [ ] [Patient.cpp,151] - Entering Patient::GetContainingStudy()
11/29/01 13:25:17:405 6 [ ] [Patient.cpp,1003] - Entering Patient::GetKey()
11/29/01 13:25:17:445 6 [ ] [Patient.cpp,1034] - Entering Patient::AddRef()
11/29/01 13:25:17:475 6 [ ] [Patient.cpp,460] - Entering Patient:: GetCommaDelimitedPatientName()
11/29/01 13:25:17:495 6 [ ] [Patient.cpp,920] - Entering Patient::GetSetFields()
11/29/01 13:25:17:525 6 [ ] [Patient.cpp,1003] - Entering Patient::GetKey()
11/29/01 13:25:17:555 6 [ ] [Patient.cpp,960] - Entering Patient::SetStudyKey()
11/29/01 13:25:17:675 6 [DICOM] [Patient.cpp,1050] - Entering Patient::ReleaseRef()
11/29/01 13:25:17:705 3 [ ] [DeliveryJob.cpp,313] - DeliveryJob Created #4

11/29/01 13:25:17:755 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=2670, numBandsPerPage=1 **(Get band separation data from Database for a Format 1 page. Band separation is the number of pixels between bands on film. Format 1 is a sheet of film with only 1 band and 1 image.)**

(11/29/01 13:25:17:785 4 [ ] [Destination.cpp,2733] - GetMinBandSeparation() calculated band separation of 0 overridden by MIMDUI mimimum setting.

11/29/01 13:25:17:815 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 1, returns 2 **(Band separation is the number of pixels between bands on film.)**

11/29/01 13:25:17:845 4 [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation. **(MIMDUI is the MIM Service Application. Image separation is the number of pixels between images on film.)**

11/29/01 13:25:17:865 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:18:656 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=2670, numBandsPerPage=1

11/29/01 13:25:18:686 4 [ ] [Destination.cpp,2733] - GetMinBandSeparation() calculated band separation of 0 overridden by MIMDUI minimum setting.

11/29/01 13:25:18:716 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:18:747 4 [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.

11/29/01 13:25:18:777 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:18:807 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=2670, numBandsPerPage=1

11/29/01 13:25:18:837 4 [ ] [Destination.cpp,2733] - GetMinBandSeparation() calculated band separation of 0 overridden by MIMDUI minimum setting.

11/29/01 13:25:18:867 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:18:897 4 [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.

11/29/01 13:25:18:917 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:19:017 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=2670, numBandsPerPage=1

11/29/01 13:25:19:047 4 [ ] [Destination.cpp,2733] - GetMinBandSeparation() calculated band separation of 0 overridden by MIMDUI minimum setting.

11/29/01 13:25:19:077 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:19:107 4 [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.

11/29/01 13:25:19:137 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:19:177 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=2670, numBandsPerPage=1

11/29/01 13:25:19:207 4 [ ] [Destination.cpp,2733] - GetMinBandSeparation() calculated band separation of 0 overridden by MIMDUI minimum setting.

11/29/01 13:25:19:237 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:19:267 4 [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.

11/29/01 13:25:19:297 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 1, returns 2

11/29/01 13:25:19:327 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=2670, numBandsPerPage=1

11/29/01 13:25:19:357 4 [ ] [Destination.cpp,2733] - GetMinBandSeparation() calculated band separation of 0 overridden by MIMDUI minimum setting.

11/29/01 13:25:19:387 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 1, returns 2 **(Separation between bands is 2 pixels.)**

11/29/01 13:25:19:417 4 [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.

11/29/01 13:25:19:458 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 1, returns 2 **(Separation between images is 2 pixels.)**

11/29/01 13:25:19:558 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=1326, numBandsPerPage=2 **(Get band separation from Database for a Format 4 page, which has 2 bands per page and 2 images per band.)**

11/29/01 13:25:19:588 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 4, returns 18 **(Separation between bands is 18 pixels.)**

11/29/01 13:25:19:618 4 [ ] [Destination.cpp,2945] - GetMinImageSeparation(), colsPerBand=2736, colsPerImage=1356, numImagesPerBand=2

11/29/01 13:25:19:648 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 4, returns 24 (**Separation between images is 24 pixels.)**

11/29/01 13:25:19:718 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=1326, numBandsPerPage=2

11/29/01 13:25:19:748 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 4, returns 18

11/29/01 13:25:19:778 4 [ ] [Destination.cpp,2945] - GetMinImageSeparation(), colsPerBand=2736, colsPerImage=1356, numImagesPerBand=2

11/29/01 13:25:19:818 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 4, returns 24

(At this point 2 different page formats are set up for print jobs.)

11/29/01 13:25:21:320 3 [ ] [DeliveryJob.cpp,3984] - DeliveryJob Created #5

11/29/01 13:25:21:430 4 [ ] [PhotonPrinter.cpp,497] - 83 PrintingEvent is signaled

11/29/01 13:25:21:460 4 [ ] [PhotonPrinter.cpp,512] - 83 deliveryJobReadySemaphore is signaled

11/29/01 13:25:21:490 6 [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()

11/29/01 13:25:21:581 6 [ ] [LaserImager.cpp,1207] - GetPrinterStatusHelper() starts -----

11/29/01 13:25:21:611 6 [ ] [LaserImager.cpp,702] - CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 7

11/29/01 13:25:21:641 6 [ ] [LaserImager.cpp,740] - Got LIT Open Mutex!

11/29/01 13:25:21:671 6 [ ] [LaserImager.cpp,745] - lit_init() is done

11/29/01 13:25:21:701 6 [ ] [LaserImager.cpp,768] - lit_open() successful (New job is opened.)

11/29/01 13:25:21:731 6 [ ] [LaserImager.cpp,770] - CLaserImager::Open() returns true ******

11/29/01 13:25:21:761 5 [ ] [m952.cpp,387] - m952_GetIMSStatus called

11/29/01 13:25:21:781 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():RQS

(Request status of IMS in IMAGER.)

11/29/01 13:25:21:821 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: RQS

11/29/01 13:25:21:851 6 [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()

11/29/01 13:25:21:961 6 [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()

11/29/01 13:25:22:011 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received

(IMAGER acknowledged request.)

11/29/01 13:25:22:051 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STA,1,RDY to packet List. #Items=1

11/29/01 13:25:22:081 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STA,1,RDY

(Response from IMAGER is that IMS is "Ready.")

11/29/01 13:25:22:121 5 [ ] [m952.cpp,804] - m952_GetAvailableMemory()

11/29/01 13:25:22:151 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():INQ

(Request status of IMAGER memory.)

11/29/01 13:25:22:181 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: INQ

11/29/01 13:25:22:432 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received

(IMAGER acknowledged request.)

11/29/01 13:25:22:462 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item ANQ,504,504,0,0 to packet List. #Items=1

11/29/01 13:25:22:492 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: ANQ,504,504,0,0 **(IMAGER responded that available memory is 16 meg [504 blocks x 32K), all contiguous, with no holes or bad blocks.)**

11/29/01 13:25:22:512 5 [ ] [m952.cpp,48] - m952_GetPrinterStatus called Printer: 1

11/29/01 13:25:22:542 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():RQS

(Request status of the PRINTER.)

11/29/01 13:25:22:572 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: RQS

11/29/01 13:25:22:772 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received

(PRINTER acknowledged request.)

11/29/01 13:25:22:802 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STA,1,RDY to packet List. #Items=1

11/29/01 13:25:22:832 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STA,1,RDY

(PRINTER is "Ready.")

11/29/01 13:25:22:862 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():ALI

(**Allocate LASER IMAGER for printing.)**

11/29/01 13:25:22:882 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: ALI

11/29/01 13:25:23:033 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received

(IMAGER acknowledged command.)

11/29/01 13:25:23:053 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1

11/29/01 13:25:23:083 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS

(Command executed properly.)

11/29/01 13:25:23:113 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():MSZ

(Show and set the media size.)

11/29/01 13:25:23:143 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: MSZ

11/29/01 13:25:23:443 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received

(IMAGER acknowledged command.)

11/29/01 13:25:23:473 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS,0810,0810,0810 to packet List. #Items=1

11/29/01 13:25:23:503 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS,0810,0810,0810

(Command executed properly. Media size is 8 x 10 inches.)

11/29/01 13:25:23:533 5 [ ] [m952.cpp,485] - m952_GetFPStatus called

11/29/01 13:25:23:563 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():RQS

(Request status of Film Processor.)

11/29/01 13:25:23:593 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: RQS

11/29/01 13:25:23:784 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received

(IMAGER acknowledged request.)

11/29/01 13:25:23:814 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STA,1,RDY to packet List. #Items=1

11/29/01 13:25:23:844 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STA,1,RDY

(Film Processor status is "Ready.")

11/29/01 13:25:23:874 6 [ ] [LaserImager.cpp,778] - CLaserImager::Close() starts, thread 0x2013929351160 ------

(Begin to close setup session and print summary.)

11/29/01 13:25:23:894 6 [ ] [dim.cpp,1786] - Dim:Stop() starts ------

11/29/01 13:25:23:924 6 [ ] [SMessage.cpp,80] - in SMessage::close().

11/29/01 13:25:23:954 6 [ ] [ccpacket.cpp,845] - M952::startPacketTask. Quitting!

11/29/01 13:25:23:984 6 [ ] [SMessage.cpp,72] - in SMessage::~SMessage().

11/29/01 13:25:24:014 6 [ ] [SMessage.cpp,80] - in SMessage::close().

11/29/01 13:25:24:044 6 [ ] [dim.cpp,1288] - Dim:DeleteDataConnection() starts ------

11/29/01 13:25:24:064 6 [ ] [LaserImager.cpp,791] - CLaserImager::Close() ends ******

11/29/01 13:25:24:094 5 [ ] [LaserImager.cpp,1353] - currentFilmSize = E8X10

11/29/01 13:25:24:124 5 [ ] [LaserImager.cpp,1356] - currentFilmType = FTUnknown

11/29/01 13:25:24:154 5 [ ] [LaserImager.cpp,1358] - sheetsLeft= 99

11/29/01 13:25:24:184 5 [ ] [LaserImager.cpp,1361] - printerStatus = PR_Normal

11/29/01 13:25:24:204 5 [ ] [LaserImager.cpp,1364] - fpStatus =

11/29/01 13:25:24:234 5 [ ] [LaserImager.cpp,1367] - imsStatus = IMS_Normal

11/29/01 13:25:24:264 5 [ ] [LaserImager.cpp,1370] - availableMemory = 16515072 bytes

11/29/01 13:25:24:294 6 [ ] [LaserImager.cpp,1373] - CLaserImager::GetPrinterStatusHelper() returns S_SUCCESS ******

11/29/01 13:25:24:325 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=1326, numBandsPerPage=2

11/29/01 13:25:24:355 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 4, returns 18

11/29/01 13:25:24:375 4 [ ] [Destination.cpp,2945] - GetMinImageSeparation(), colsPerBand=2736, colsPerImage=1356, numImagesPerBand=2

11/29/01 13:25:24:405 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 4, returns 24

11/29/01 13:25:24:445 4 [DICOM] [PageBuilder.cpp,136] - Render() Begin (Begin to render page.)

11/29/01 13:25:24:475 4 [DICOM] [PageBuilder.cpp,137] - Media Size: 1/29/01 13:25:24:505 4 [DICOM] [PageBuilder.cpp,138] - Film Base: 1

11/29/01 13:25:24:535 4 [DICOM] [PageBuilder.cpp,139] - Number of Planes: 1

11/29/01 13:25:24:555 4 [DICOM] [PageBuilder.cpp,140] - Pixel Depth: 8

11/29/01 13:25:24:585 4 [DICOM] [PageBuilder.cpp,141] - Print Quality: 2

11/29/01 13:25:24:615 4 [DICOM] [PageBuilder.cpp,178] - BorderDensity (*100): 399.

11/29/01 13:25:24:635 4 [DICOM] [PageBuilder.cpp,394] - PrepareRenderedPage() Begin

11/29/01 13:25:24:665 4 [ ] [Destination.cpp,2728] - GetMinBandSeparation(), linesPerPage=2670, linesPerBand=1326, numBandsPerPage=2

11/29/01 13:25:24:695 3 [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8300, pageFormat 4, returns 18

11/29/01 13:25:24:725 4 [ ] [Destination.cpp,2945] - GetMinImageSeparation(), colsPerBand=2736, colsPerImage=1356, numImagesPerBand=2

11/29/01 13:25:24:755 3 [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8300, pageFormat 4, returns 24

11/29/01 13:25:24:785 4 [DICOM] [PageBuilder.cpp,468] - Portrait Mode

11/29/01 13:25:24:995 4 [DICOM] [PageBuilder.cpp,589] - PrepareRenderedPage() End

11/29/01 13:25:25:026 4 [DICOM] [PageBuilder.cpp,1325] - RenderImageAnnotation() Begin

11/29/01 13:25:25:056 4 [DICOM] [PageBuilder.cpp,1379] - RenderImageAnnotation() End

11/29/01 13:25:25:086 4 [DICOM] [PageBuilder.cpp,611] - RenderImage(): 0, 0

11/29/01 13:25:25:106 4 [DICOM] [PageBuilder.cpp,616] - Image Columns: 748

11/29/01 13:25:25:136 4 [DICOM] [PageBuilder.cpp,617] - Image Rows: 480

11/29/01 13:25:25:166 4 [DICOM] [PageBuilder.cpp,618] - Bits Stored: 8

11/29/01 13:25:25:196 4 [DICOM] [PageBuilder.cpp,619] - Interpolation Type: 3

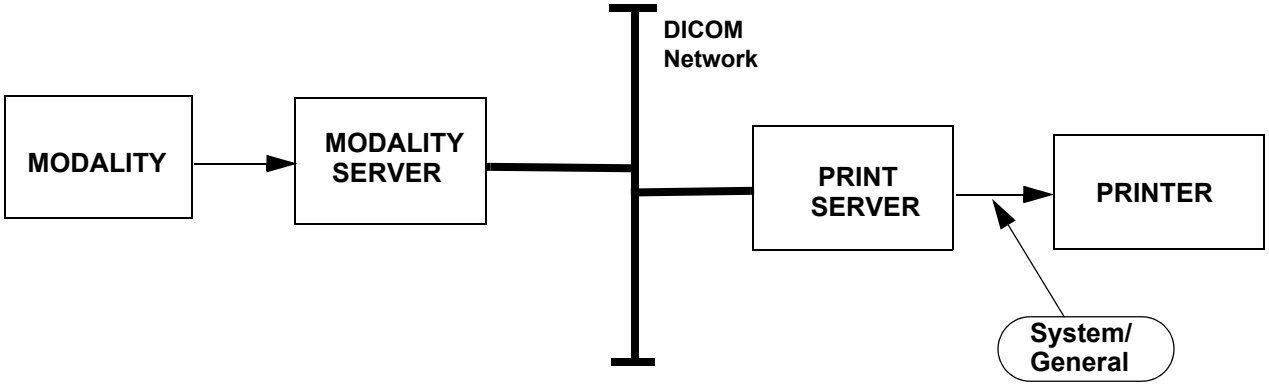
11/29/01 13:25:25:216 4 [DICOM] [PageBuilder.cpp,622] - Aspect Ratio (H): 13
11/29/01 13:25:25:246 4 [DICOM] [PageBuilder.cpp,623] - Aspect Ratio (V): 15
11/29/01 13:25:25:336 4 [DICOM] [PageBuilder.cpp,708] - Position of Image on Page (x, y): 0,251
11/29/01 13:25:25:366 4 [DICOM] [PageBuilder.cpp,709] - Scaled Size (h, w): 826,1116
11/29/01 13:25:25:857 4 [DICOM] [PageBuilder.cpp,750] - RenderImage() End
11/29/01 13:25:25:877 4 [DICOM] [PageBuilder.cpp,364] - Render() End
11/29/01 13:25:25:907 6 [ ] [LaserImager.cpp,324] - CLaserImager::NewPrintJob() starts ------ **(Begin new print job.)**
11/29/01 13:25:25:937 6 [ ] [LaserImager.cpp,702] - CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 9
11/29/01 13:25:25:967 6 [ ] [LaserImager.cpp,740] - Got LIT Open Mutex!
11/29/01 13:25:25:997 6 [ ] [LaserImager.cpp,745] - lit_init() is done
11/29/01 13:25:26:017 6 [ ] [LaserImager.cpp,768] - lit_open() successful
11/29/01 13:25:26:047 6 [ ] [LaserImager.cpp,770] - CLaserImager::Open() returns true ******
11/29/01 13:25:26:077 4 [ ] [PrintJob.h,47] - CPrintJob::FinalConstruct() this = 0x20139293513153056
11/29/01 13:25:26:107 6 [ ] [LaserImager.cpp,369] - CLaserImager::NewPrintJob() returns S_SUCCESS ******
11/29/01 13:25:26:137 6 [ ] [PrintJob.cpp,16] - CPrintJob::SetJobInfo() starts ------
11/29/01 13:25:26:167 5 [ ] [PrintJob.cpp,19] - inJobInfo->numCopies = 1
11/29/01 13:25:26:187 5 [ ] [PrintJob.cpp,22] - inJobInfo->filmDestination = FDCURRENT
11/29/01 13:25:26:217 5 [ ] [PrintJob.cpp,25] - inJobInfo->maxDensity = 300
11/29/01 13:25:26:247 5 [ ] [PrintJob.cpp,28] - inJobInfo->borderDensity = 0
11/29/01 13:25:26:277 5 [ ] [PrintJob.cpp,31] - inJobInfo->numImages = 1
11/29/01 13:25:26:297 5 [ ] [PrintJob.cpp,34] - inJobInfo->gammaTable = 1
11/29/01 13:25:26:327 5 [ ] [m952.cpp,48] - m952_GetPrinterStatus called Printer: 1
11/29/01 13:25:26:357 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():RQS
(Request status of PRINTER.)
11/29/01 13:25:26:387 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: RQS
11/29/01 13:25:26:598 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(PRINTER acknowledged request.)
11/29/01 13:25:26:628 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STA,1,RDY to packet List. #Items=1
11/29/01 13:25:26:658 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STA,1,RDY
(PRINTER status is "Ready.")
11/29/01 13:25:26:678 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():ALI
(Allocate LASER imager for printing.)
11/29/01 13:25:26:708 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: ALI
11/29/01 13:25:26:848 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:26:868 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:25:26:898 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS
(Command executed properly.)
11/29/01 13:25:26:928 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():MSZ (Rquest size of media.)
11/29/01 13:25:26:958 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: MSZ
11/29/01 13:25:27:229 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged request.)
11/29/01 13:25:27:259 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS,0810,0810,0810 to packet List. #Items=1
11/29/01 13:25:27:289 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS,0810,0810,0810
(Command executed properly. Media size is 8 x 10 inches.)
11/29/01 13:25:27:319 6 [ ] [m952_sendPageInfo.cpp,322] - m952_sendPageInfo called
11/29/01 13:25:27:339 5 [ ] [m952_sendPageInfo.cpp,332] - pageInfo: formatID=-1 numImages=1 borderDensity=0 maxDensity=300 gammaTable=1
11/29/01 13:25:27:369 5 [ ] [m952_sendPageInfo.cpp,342] - numCopies=1 filmType=1 filmSize=1 filmDest=1 orientation=1
11/29/01 13:25:27:399 5 [ ] [m952_sendPageInfo.cpp,347] - annoFomrat=1 annoText=4544680
11/29/01 13:25:27:429 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():ALI
(Allocate LASER IMAGER for printing.)
11/29/01 13:25:27:459 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: ALI
11/29/01 13:25:27:589 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:27:619 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:25:27:649 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS
(Command executed properly.)

11/29/01 13:25:27:679 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():ORI,P
(Set page orientation to Portrait.)
11/29/01 13:25:27:699 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: ORI,P
11/29/01 13:25:27:880 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:27:900 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:25:27:930 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS
(Command executed properly.)
11/29/01 13:25:27:960 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():CLR ALL
(Clear all pages from memory.)
11/29/01 13:25:27:990 6 [ ] [LaserImager.cpp,624] - CLaserImager::PollJobStatusChange() starts ------
11/29/01 13:25:27:990 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: CLR ALL
11/29/01 13:25:28:020 6 [ ] [LaserImager.cpp,660] - CLaserImager::PollJobStatusChange() ends ******
11/29/01 13:25:28:050 6 [ ] [LaserImager.cpp,668] - CLaserImager::PollPrinterStatusChange() starts -----
11/29/01 13:25:28:080 6 [ ] [LaserImager.cpp,1174] - PollPrinterStatusChangeHelper() starts -----
11/29/01 13:25:28:110 6 [ ] [LaserImager.cpp,1207] - GetPrinterStatusHelper() starts -----
11/29/01 13:25:28:140 6 [ ] [LaserImager.cpp,702] - CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 7
11/29/01 13:25:28:170 6 [ ] [LaserImager.cpp,732] - LIT in use by thread 0x2013929351212, wait and retry #1
11/29/01 13:25:28:200 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:28:230 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:25:28:260 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS
(Command executed properly.)
11/29/01 13:25:28:290 6 [ ] [PrintJob.cpp,147] - CPrintJob::SetJobInfo() returns 0 ******
11/29/01 13:25:28:310 6 [ ] [PrintJob.cpp,157] - CPrintJob::NewImageBox() starts ------
11/29/01 13:25:28:340 6 [ ] [PrintJob.cpp,176] - CPrintJob::NewImageBox() returns 0 ******
11/29/01 13:25:28:370 6 [ ] [ImageBox.cpp,20] - CImageBox::SetImageInfo() starts ------
11/29/01 13:25:28:400 5 [ ] [ImageBox.cpp,35] - kernelGroup = 2interp# = 1modalityGroup = 1contrast = 6trim = 0rotate = 0
11/29/01 13:25:28:430 5 [ ] [ImageBox.cpp,47] - columns = 2256rows =2676bitsAllocated = 8bitsStored = 8highBit = 7pixelRep = 1
11/29/01 13:25:28:460 5 [ ] [ImageBox.cpp,53] - x0 = 0 y0 = 0 width = 2256 height = 2676
11/29/01 13:25:28:491 6 [ ] [m952_sendImageInfo.cpp,424] - m952_sendImageInfo called
11/29/01 13:25:28:521 5 [ ] [m952_sendImageInfo.cpp,410] - LIT::adjBox mimageID=1index=1 X=0 Y=0 W=2256 H=2676 Cols=2256 Rows=2676 con=6
11/29/01 13:25:28:551 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():INQ
(Request status of IMAGER memory.)
11/29/01 13:25:28:581 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: INQ
11/29/01 13:25:28:841 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged request.)
11/29/01 13:25:28:871 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item ANQ,504,504,0,0 to packet List. #Items=1
11/29/01 13:25:28:901 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: ANQ,504,504,0,0 (**IMAGER responded that available memory is 16 meg [504 blocks x 32K], all contiguous, with no holes or bad blocks.)**
11/29/01 13:25:28:931 5 [ ] [m952_sendImageInfo.cpp,555] - LIT::Send Command AQU,1
(Acquire Image number 1.)
11/29/01 13:25:28:961 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: AQU,1
11/29/01 13:25:29:091 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:29:121 5 [ ] [ImageBox.cpp,283] - CImageBox::SetImageInfo() returns 0x = 20139293510
11/29/01 13:25:29:151 6 [ ] [ImageBox.cpp,311] - CImageBox::PrintData() starts ------
11/29/01 13:25:35:170 6 [ ] [LaserImager.cpp,732] - LIT in use by thread 0x2013929351212, wait and retry #2
11/29/01 13:25:36:572 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:25:36:602 5 [ ] [m952_sendImageData.cpp,303] - m952_sendImageInfo: LIT::Get Response returns PAS
(**Image transfer executed properly.)**
11/29/01 13:25:36:632 5 [ ] [ImageBox.cpp,394] - lit_sendImageData() time = 7.45 seconds
(Transfer took 7.45 seconds.)
11/29/01 13:25:36:662 6 [ ] [PrintJob.cpp,186] - CPrintJob::PrintPage() starts ------**(Set up for printing.)**
11/29/01 13:25:36:692 6 [ ] [m952_printPage.cpp,902] - m952_printPage called
11/29/01 13:25:36:722 5 [ ] [m952_printPage.cpp,421] - m952_printPage:used page width= 2256 & height=2676
11/29/01 13:25:36:752 5 [ ] [m952_printPage.cpp,443] - m952_printPage:PrintPage add FID[1]=0

11/29/01 13:25:36:782 5 [ ] [m952_printPage.cpp,474] - m952_printPage:PrintPage: Setup free format: 2
11/29/01 13:25:36:812 5 [ ] [m952_printPage.cpp,483] - m952_printPage:PrintPage: FID[0]=2
11/29/01 13:25:36:843 5 [ ] [m952_printPage.cpp,493] - m952_printPage:PrintPage: FID[1]=0
11/29/01 13:25:36:863 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand(): DZO,2676,6,1,1.000,1.000,17,1,6 **(Define zone on the sheet of film: 2676 lines, 6 top border lines, 1 image in zone, horizontal mag of 1.000, vertical mag. of 1.000, 5th order interpolation, Image id is 1, contrast setting is 6.)**
11/29/01 13:25:36:893 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: DZO,2676,6,1,1.000,1.000,17,1,6
11/29/01 13:25:37:253 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:37:353 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:25:37:383 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS
(Command executed properly.)
11/29/01 13:25:37:413 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():STP,1,16
(Set up to print: 1 copy at a density setting of 6.)
11/29/01 13:25:37:433 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: STP,1,16
11/29/01 13:25:37:624 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:37:654 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item STC to packet List. #Items=1
11/29/01 13:25:37:684 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: STC (Film is staged, ready for printing.)
11/29/01 13:25:37:714 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():EXP (Start exposing film.)
11/29/01 13:25:37:744 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: EXP
11/29/01 13:25:37:884 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
11/29/01 13:25:37:914 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item EOE to packet List. #Items=1
11/29/01 13:25:37:944 2 [ ] [m952_sendCommand.cpp,1122] - m952_sendCommand() receiveResponse() received: EOE try again **(End of Exposure. Image acquisition can continue.)**
11/29/01 13:25:37:994 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PTC to packet List. #Items=1
11/29/01 13:25:38:024 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PTC
(Printing completed successfully.)
11/29/01 13:25:38:054 5 [ ] [m952_printPage.cpp,980] - m952_printPage(): Job ID = 0
11/29/01 13:25:38:074 6 [ ] [m952_sendCommand.cpp,1080] - m952_sendCommand():CLR ALL
(Clear all images from memory.)
11/29/01 13:25:38:104 6 [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: CLR ALL
11/29/01 13:25:38:325 5 [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(**IMAGER acknowledged command.)**
11/29/01 13:25:38:355 6 [ ] [ccpacket.cpp,799] - M952::getPacketTask(). Adding item PAS to packet List. #Items=1
11/29/01 13:25:38:385 5 [ ] [m952_sendCommand.cpp,1144] - LIT::Get Response: PAS
(Command executed properly.)
11/29/01 13:25:38:415 6 [ ] [LaserImager.cpp,778] - CLaserImager::Close() starts, thread 0x2013929351212 ------
(Begin to close job.)
11/29/01 13:25:38:445 6 [ ] [dim.cpp,1786] - Dim:Stop() starts ------
11/29/01 13:25:38:465 6 [ ] [SMessage.cpp,80] - in SMessage::close().
11/29/01 13:25:38:495 6 [ ] [ccpacket.cpp,845] - M952::startPacketTask. Quitting!
11/29/01 13:25:38:525 6 [ ] [SMessage.cpp,72] - in SMessage::~SMessage().
11/29/01 13:25:38:555 6 [ ] [SMessage.cpp,80] - in SMessage::close().
11/29/01 13:25:38:585 6 [ ] [dim.cpp,1288] - Dim:DeleteDataConnection() starts ------
11/29/01 13:25:38:615 6 [ ] [LaserImager.cpp,791] - CLaserImager::Close() ends ******
11/29/01 13:25:38:645 6 [ ] [PrintJob.cpp,218] - CPrintJob::PrintPage() returns 0 ******
11/29/01 13:25:38:665 4 [ ] [PrintJob.h,55] - CPrintJob::FinalRelease() this = 0x20139293513153056
11/29/01 13:25:38:725 2 [ ] [NetworkArbiter.cpp,350] - NetworkArbiter::QueueRemove - no print jobs pending on idle printers
11/29/01 13:25:38:785 5 [ ] [PhotonPrinter.cpp,483] - Ding is removing job 4 from the to-be-deleted list
11/29/01 13:25:38:815 6 [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()
11/29/01 13:25:38:865 4 [ ] [PhotonPrinter.cpp,503] - 83 ReadyEvent is signaled

(Log Continues.)

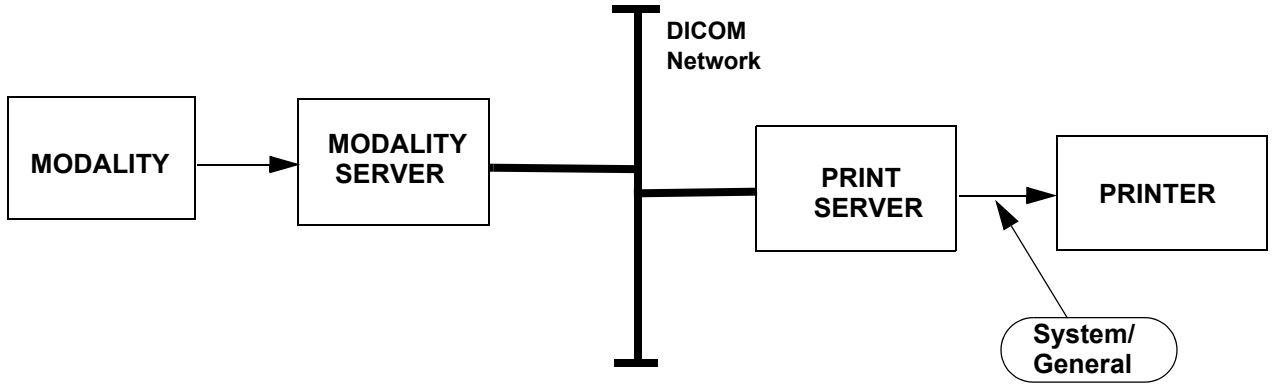
(Sample Log 9 - PRINT SERVER to PRINTER (Superset_cmdset, Idle State)- This log is for a MIM PRINT SERVER (SCP) communicating with a *Kodak DryView* LASER IMAGER during an idle situation, using Superset_cmdset. The logs have been filtered to include only the log for the **System/General Subsystem**, set at level 6.



09:44:48:123 6 [8191,000000000] [ ] [LaserImager.cpp,624] - CLaserImager:: PollJobStatusChange() starts ------
09:44:48:153 6 [8191,000000000] [ ] [LaserImager.cpp,660] - CLaserImager::PollJobStatus Change() ends ******
09:44:48:183 6 [8191,000000000] [ ] [LaserImager.cpp,668] - CLaserImager::PollPrinterStatus Change() starts -----
(Begin routine to poll PRINTER status.)
09:44:48:213 6 [8191,000000000] [ ] [LaserImager.cpp,1174] - PollPrinterStatusChangeHelper() starts -----
09:44:48:243 6 [8191,000000000] [ ] [LaserImager.cpp,1207] - GetPrinterStatusHelper() starts -----
09:44:48:273 6 [8191,000000000] [ ] [LaserImager.cpp,702] - CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 7
09:44:48:303 6 [8191,000000000] [ ] [LaserImager.cpp,740] - Got LIT Open Mutex!
09:44:48:343 6 [8191,000000000] [ ] [LaserImager.cpp,745] - lit_init() is done
09:44:48:373 6 [8191,000000000] [ ] [LaserImager.cpp,768] - lit_open() successful
09:44:48:403 6 [8191,000000000] [ ] [LaserImager.cpp,770] - CLaserImager::Open() returns true ******
09:44:48:433 6 [8191,000000000] [ ] [ss.cpp,238] - ss_GetIMSStatus() started
09:44:48:463 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Sta IMS
(Request status of the IMS in the IMAGER.)
09:44:48:493 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Sta IMS
09:44:48:523 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Sta IMS0dc5
09:44:48:563 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:44:48:593 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged receiving request.)
09:44:48:624 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Sta Y0B13
09:44:48:654 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Sta Y
(Status of IMS has not changed. It is "Ready.")
09:44:48:684 6 [8191,000000000] [ ] [ss.cpp,557] - ss_getAvailableMemory() started
09:44:48:714 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Show Mem
(Show status of memory in IMAGER.)
09:44:48:754 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Show Mem
09:44:48:784 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Show Mem0e75
09:44:48:814 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:44:48:844 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged request.)
09:44:49:014 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Show Y Mem=32768,32768,1,6,02255
09:44:49:044 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Show Y Mem=32768,32768,1,6,0 **(IMAGER responded that available memory is 33 megapixels, all in one block, 1 hole in memory, 6 bad pixels, 2255 used pixels.)**
09:44:49:084 6 [8191,000000000] [ ] [ss.cpp,36] - ss_getPrinterStatus() started
09:44:49:114 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Sta Pr=1
(Get the status of PRINTER 1.)
09:44:49:144 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Sta Pr=1
09:44:49:174 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Sta Pr=10e0d
09:44:49:204 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:44:49:234 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged command.)
09:44:49:274 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Sta Y LT 103
Media=BWDryB,E14x17267A

09:44:49:305 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Sta Y LT 103 Media=BWDryB,E14x17 **(LASER IMAGER has 103 sheets of black and white 14 x 17 in. Kodak DryView film.)**
09:44:49:335 6 [8191,000000000] [ ] [ss.cpp,301] - ss_getFPStatus() started
09:44:49:365 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Sta FP=1
(Get status of FILM PROCESSOR 1.)
09:44:49:395 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Sta FP=1
09:44:49:425 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Sta FP=10ee1
09:44:49:455 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:44:49:495 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
(IMAGER acknowledged request.)
09:44:49:525 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Sta Y Ready LT14DB
09:44:49:555 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Sta Y Ready LT
(LASER IMAGER is "Ready.")
09:44:49:585 6 [8191,000000000] [ ] [LaserImager.cpp,778] - CLaserImager::Close() starts, thread 0x2013929351297 ------
09:44:49:615 6 [8191,000000000] [ ] [dim.cpp,1786] - Dim:Stop() starts ------
09:44:49:655 6 [8191,000000000] [ ] [SMessage.cpp,80] - in SMessage::close().
09:44:49:685 6 [8191,000000000] [ ] [SMessage.cpp,72] - in SMessage::~SMessage().
09:44:49:715 6 [8191,000000000] [ ] [SMessage.cpp,80] - in SMessage::close().
09:44:49:745 6 [8191,000000000] [ ] [dim.cpp,1288] - Dim:DeleteDataConnection() starts ------
09:44:49:775 6 [8191,000000000] [ ] [LaserImager.cpp,791] - CLaserImager::Close() ends ******
09:44:49:805 5 [8191,000000000] [ ] [LaserImager.cpp,1353] - currentFilmSize = E14X17
09:44:49:835 5 [8191,000000000] [ ] [LaserImager.cpp,1356] - currentFilmType = BLUE
09:44:49:875 5 [8191,000000000] [ ] [LaserImager.cpp,1358] - sheetsLeft= 103
09:44:49:905 5 [8191,000000000] [ ] [LaserImager.cpp,1361] - printerStatus = PR_Normal
09:44:49:935 5 [8191,000000000] [ ] [LaserImager.cpp,1364] - fpStatus = FP_Ready
09:44:49:965 5 [8191,000000000] [ ] [LaserImager.cpp,1367] - imsStatus = IMS_Normal
09:44:49:995 5 [8191,000000000] [ ] [LaserImager.cpp,1370] - availableMemory = 33548288 bytes
09:44:50:026 6 [8191,000000000] [ ] [LaserImager.cpp,1373] - CLaserImager::GetPrinterStatusHelper() returns S_SUCCESS *
09:44:50:056 6 [8191,000000000] [ ] [LaserImager.cpp,1200] - PollPrinterStatusChangeHelper() ends ******
09:44:50:086 6 [8191,000000000] [ ] [LaserImager.cpp,672] - CLaserImager::PollPrinterStatusChange() ends ******
(End of log.)

Sample Log 10 - PRINT SERVER to PRINTER (Superset_cmdset, Job Transfer) - This log is for a MIM SCP communicating with a *Kodak DryView* LASER IMAGER during a job transfer, using Superset_cmdset. The logs have been filtered to include only the log for the **System/General Subsystem**, set at level 6.



Superset command set is used in communications with the 8500, 8700 and 969 LASER IMAGERS, and the 8800 MULTI-INPUT MANAGER. The following table indicates the normal sequence of commands in a print job transfer between PRINT SERVER and PRINTER:

Host Command	LASER IMAGER Response	Comment
Sta Pr=[x]	-	Ask status of PRINTER.
	Sta Y LT 35 Media=BWDryB,E14x17	Status of LT PRINTER is Ready. 35 sheets of black and white DryView Blue film, size 14 x 17 in.
Del Fmt	-	Delete all defined print formats.
	Del Y	Formats deleted.
Del Def Img	-	Delete images in memory.
	Del Y	Images deleted.
Set Density xxx	-	Set Maximum density value.
	Set Y	Density value set.
FMT ID	-	Assign an ID to page format
	Fmt Y	ID assigned.
Box ID	-	Define an image box.
	Box Y	Image box defined.
Res Imgs	-	Reserve memory for images.
	Res Y	Memory reserved.
STO Img	-	Store an image in memory.
	Sto Y	Image stored.
Pr FMT	-	Print a job.
	Pri Y	Job printed.
Del Def Img	-	Delete images in memory.
	Del Y	Images deleted.
Del FMT	-	Delete all defined formats.
	Del Y	Formats deleted.
Sta Job	-	Ask job status.
	Wait or Done	Not finished or finished.

09:49:51:028 5 [8191,000000000] [ ] [LaserImager.cpp,1358] - sheetsLeft= 103
09:49:51:068 5 [8191,000000000] [ ] [LaserImager.cpp,1361] - printerStatus = PR_Normal
09:49:51:108 5 [8191,000000000] [ ] [LaserImager.cpp,1364] - fpStatus = FP_Ready

09:49:51:139 5 [8191,000000000] [ ] [LaserImager.cpp,1367] - imsStatus = IMS_Normal
09:49:51:179 5 [8191,000000000] [ ] [LaserImager.cpp,1370] - availableMemory = 33548288 bytes
09:49:51:219 6 [8191,000000000] [ ] [LaserImager.cpp,1373] - CLaserImager::GetPrinterStatusHelper() returns S_SUCCESS
09:49:51:249 6 [8191,000000000] [ ] [LaserImager.cpp,1200] - PollPrinterStatusChangeHelper() ends ******
09:49:51:289 6 [8191,000000000] [ ] [LaserImager.cpp,672] - CLaserImager::PollPrinterStatusChange() ends
09:49:56:146 W [8191,000000000] [ ] [MIMUIDGeneration.cpp,128] - Invalid K-Number: recorded. (#99)
09:49:56:196 6 [8191,000695382] [ ] [Patient.cpp,1175] - Entering Patient::Patient(worklist,pIF)
09:49:56:256 6 [8191,000695382] [ ] [Patient.cpp,151] - Entering Patient::GetContainingStudy()
09:49:56:286 6 [8191,000695382] [ ] [Patient.cpp,1003] - Entering Patient::GetKey()
09:49:56:346 6 [8191,000695382] [ ] [Patient.cpp,1034] - Entering Patient::AddRef()
09:49:56:386 6 [8191,000695382] [ ] [Patient.cpp,460] - Entering Patient::GetCommaDelimitedPatientName()
09:49:56:416 6 [8191,000695382] [ ] [Patient.cpp,920] - Entering Patient::GetSetFields()
09:49:56:456 6 [8191,000695382] [ ] [Patient.cpp,1003] - Entering Patient::GetKey()
09:49:56:496 6 [8191,000695382] [ ] [Patient.cpp,960] - Entering Patient::SetStudyKey()
09:49:56:616 W [8191,000000000] [ ] [MIMUIDGeneration.cpp,128] - Invalid K-Number: recorded. (#99)
09:49:56:727 6 [8191,000695382] [DICOM] [Patient.cpp,1050] - Entering Patient::ReleaseRef()
09:49:56:767 3 [8191,000000000] [ ] [DeliveryJob.cpp,313] - DeliveryJob Created #0
09:49:56:857 4 [8191,000677206] [ ] [Destination.cpp,2739] - GetMinBandSeparation() using MIMDUI separation.
09:49:56:897 3 [8191,000677206] [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8700, pageFormat 1, returns 2
09:49:56:927 4 [8191,000677206] [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.
09:49:56:967 3 [8191,000677206] [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8700, pageFormat 1, returns 2
09:49:57:087 4 [8191,000677206] [ ] [Destination.cpp,2739] - GetMinBandSeparation() using MIMDUI separation.
09:49:57:117 3 [8191,000677206] [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8700, pageFormat 1, returns 2
09:49:57:157 4 [8191,000677206] [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.
09:49:57:197 3 [8191,000677206] [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8700, pageFormat 1, returns 2
09:49:57:237 4 [8191,000677206] [ ] [Destination.cpp,2739] - GetMinBandSeparation() using MIMDUI separation.
09:49:57:267 3 [8191,000677206] [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8700, pageFormat 1, returns 2
09:49:57:307 4 [8191,000677206] [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.
09:49:57:347 3 [8191,000677206] [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8700, pageFormat 1, returns 2
09:49:57:388 4 [8191,000677206] [ ] [Destination.cpp,2739] - GetMinBandSeparation() using MIMDUI separation.
09:49:57:428 3 [8191,000677206] [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8700, pageFormat 1, returns 2
09:49:57:458 4 [8191,000677206] [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.
09:49:57:498 3 [8191,000677206] [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8700, pageFormat 1, returns 2
09:49:57:728 W [8191,000000000] [ ] [MIMUIDGeneration.cpp,128] - Invalid K-Number: recorded. (#99)
09:49:57:878 3 [8191,000000000] [ ] [DeliveryJob.cpp,3984] - DeliveryJob Created #1
09:49:57:978 4 [8191,000677206] [ ] [PhotonPrinter.cpp,497] - Pecan PrintingEvent is signaled
09:49:58:028 4 [8191,000677206] [ ] [PhotonPrinter.cpp,512] - Pecan deliveryJobReadySemaphore is signaled
09:49:58:089 5 [8191,000677206] [ ] [PhotonPrinter.cpp,483] - Ding is removing job 0 from the to-be-deleted list
09:49:58:149 6 [8191,000000000] [ ] [LaserImager.cpp,1207] - GetPrinterStatusHelper() starts -----
09:49:58:189 6 [8191,000000000] [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()
09:49:58:189 6 [8191,000000000] [ ] [LaserImager.cpp,702] - CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 7
09:49:58:239 6 [8191,000000000] [ ] [LaserImager.cpp,740] - Got LIT Open Mutex!
09:49:58:279 6 [8191,000000000] [ ] [LaserImager.cpp,745] - lit_init() is done
09:49:58:279 6 [8191,000000000] [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()
09:49:58:329 6 [8191,000000000] [ ] [LaserImager.cpp,768] - lit_open() successful
09:49:58:369 6 [8191,000000000] [ ] [LaserImager.cpp,770] - CLaserImager::Open() returns true ******
09:49:58:409 6 [8191,000000000] [ ] [ss.cpp,238] - ss_GetIMSStatus() started
09:49:58:409 6 [8191,000000000] [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()
09:49:58:459 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Sta IMS
09:49:58:459 6 [8191,000000000] [ ] [Destination.cpp,4391] - Destination Class is Handling: GetAllDirectDestinations()
09:49:58:499 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Sta IMS
09:49:58:539 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Sta IMS0dc5
09:49:58:579 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:49:58:619 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received

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09:49:58:659 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Sta Y0B13
09:49:58:699 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Sta Y
09:49:58:729 6 [8191,000000000] [     ] [ss.cpp,557] -  ss_getAvailableMemory() started
09:49:58:769 6 [8191,000000000] [     ] [ss_sendCommand.cpp,233] -  LIT::Send Command: Show Mem
09:49:58:810 6 [8191,000000000] [     ] [dim.cpp,2065] -  SendCommand(). To ccpacket: Show Mem
09:49:58:850 6 [8191,000000000] [     ] [ccpacket.cpp,595] -  SuperSet::putPacket. Sending packet _Show Mem0e75
09:49:58:890 5 [8191,000000000] [     ] [ccpacket.cpp,89] -  Packet::clearAck() Clearing Ack/Nack flags
09:49:58:920 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:49:59:090 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Show Y Mem=32768,32768,1,6,02255
09:49:59:130 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Show Y Mem=32768,32768,1,6,0
09:49:59:170 6 [8191,000000000] [     ] [ss.cpp,36] -  ss_getPrinterStatus() started
09:49:59:210 6 [8191,000000000] [     ] [ss_sendCommand.cpp,233] -  LIT::Send Command: Sta Pr=1
09:49:59:240 6 [8191,000000000] [     ] [dim.cpp,2065] -  SendCommand(). To ccpacket: Sta Pr=1
09:49:59:280 6 [8191,000000000] [     ] [ccpacket.cpp,595] -  SuperSet::putPacket. Sending packet _Sta Pr=10e0d
09:49:59:320 5 [8191,000000000] [     ] [ccpacket.cpp,89] -  Packet::clearAck() Clearing Ack/Nack flags
09:49:59:360 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:49:59:400 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Sta Y LT 103
Media=BWDryB,E14x17267A
09:49:59:440 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Sta Y LT 103 Media=BWDryB,E14x17
09:49:59:471 6 [8191,000000000] [     ] [ss.cpp,301] -  ss_getFPStatus() started
09:49:59:511 6 [8191,000000000] [     ] [ss_sendCommand.cpp,233] -  LIT::Send Command: Sta FP=1
09:49:59:551 6 [8191,000000000] [     ] [dim.cpp,2065] -  SendCommand(). To ccpacket: Sta FP=1
09:49:59:591 6 [8191,000000000] [     ] [ccpacket.cpp,595] -  SuperSet::putPacket. Sending packet _Sta FP=10ee1
09:49:59:621 5 [8191,000000000] [     ] [ccpacket.cpp,89] -  Packet::clearAck() Clearing Ack/Nack flags
09:49:59:661 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:49:59:701 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Sta Y Ready LT14DB
09:49:59:741 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Sta Y Ready LT
09:49:59:771 6 [8191,000000000] [     ] [LaserImager.cpp,778] -  CLaserImager::Close() starts, thread 0x2013929351200 ------
09:49:59:811 6 [8191,000000000] [     ] [dim.cpp,1786] -  Dim:Stop() starts ------
09:49:59:851 6 [8191,000000000] [     ] [SMessage.cpp,80] -  in SMessage::close().
09:49:59:891 6 [8191,000000000] [     ] [SMessage.cpp,72] -  in SMessage::~SMessage().
09:49:59:931 6 [8191,000000000] [     ] [SMessage.cpp,80] -  in SMessage::close().
09:49:59:961 6 [8191,000000000] [     ] [dim.cpp,1288] -  Dim:DeleteDataConnection() starts ------
09:50:00:001 6 [8191,000000000] [     ] [LaserImager.cpp,791] -  CLaserImager::Close() ends ******
09:50:00:041 5 [8191,000000000] [     ] [LaserImager.cpp,1353] -  currentFilmSize = E14X17
09:50:00:071 5 [8191,000000000] [     ] [LaserImager.cpp,1356] -  currentFilmType = BLUE
09:50:00:111 5 [8191,000000000] [     ] [LaserImager.cpp,1358] -  sheetsLeft= 103
09:50:00:151 5 [8191,000000000] [     ] [LaserImager.cpp,1361] -  printerStatus = PR_Normal
09:50:00:182 5 [8191,000000000] [     ] [LaserImager.cpp,1364] -  fpStatus = FP_Ready
09:50:00:232 5 [8191,000000000] [     ] [LaserImager.cpp,1367] -  imsStatus = IMS_Normal
09:50:00:262 5 [8191,000000000] [     ] [LaserImager.cpp,1370] -  availableMemory = 33548288 bytes
09:50:00:302 6 [8191,000000000] [     ] [LaserImager.cpp,1373] -  CLaserImager::GetPrinterStatusHelper() returns S_SUCCESS *
09:50:00:352 4 [8191,000677206] [     ] [Destination.cpp,2739] -  GetMinBandSeparation() using MIMDUI separation.
09:50:00:392 3 [8191,000677206] [     ] [Destination.cpp,2745] -  GetMinBandSeparation(), model 8700, pageFormat 1, returns 2
09:50:00:422 4 [8191,000677206] [     ] [Destination.cpp,2956] -  GetMinImageSeparation() using MIMDUI separation.
09:50:00:462 3 [8191,000677206] [     ] [Destination.cpp,2962] -  GetMinImageSeparation(), model 8700, pageFormat 1, returns 2
09:50:00:502 6 [8191,000000000] [     ] [LaserImager.cpp,324] -  CLaserImager::NewPrintJob() starts ------
09:50:00:542 6 [8191,000000000] [     ] [LaserImager.cpp,702] -  CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 9
09:50:00:572 6 [8191,000000000] [     ] [LaserImager.cpp,740] -  Got LIT Open Mutex!
09:50:00:612 6 [8191,000000000] [     ] [LaserImager.cpp,745] -  lit_init() is done
09:50:00:652 6 [8191,000000000] [     ] [LaserImager.cpp,768] -  lit_open() successful
09:50:00:692 6 [8191,000000000] [     ] [LaserImager.cpp,770] -  CLaserImager::Open() returns true ******
09:50:00:732 4 [8191,000000000] [     ] [PrintJob.h,47] -  CPrintJob::FinalConstruct() this = 0x20139293513153104
09:50:00:772 6 [8191,000000000] [     ] [LaserImager.cpp,369] -  CLaserImager::NewPrintJob() returns S_SUCCESS ******
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09:50:00:812 4 [8191,000677206] [ ] [Destination.cpp,2739] - GetMinBandSeparation() using MIMDUI separation.
09:50:00:842 3 [8191,000677206] [ ] [Destination.cpp,2745] - GetMinBandSeparation(), model 8700, pageFormat 1, returns 2
09:50:00:883 4 [8191,000677206] [ ] [Destination.cpp,2956] - GetMinImageSeparation() using MIMDUI separation.
09:50:00:923 3 [8191,000677206] [ ] [Destination.cpp,2962] - GetMinImageSeparation(), model 8700, pageFormat 1, returns 2
09:50:00:963 6 [8191,000000000] [ ] [PrintJob.cpp,16] - CPrintJob::SetJobInfo() starts ------
09:50:01:003 5 [8191,000000000] [ ] [PrintJob.cpp,19] - inJobInfo->numCopies = 1
09:50:01:043 5 [8191,000000000] [ ] [PrintJob.cpp,22] - inJobInfo->filmDestination = FDCURRENT
09:50:01:083 5 [8191,000000000] [ ] [PrintJob.cpp,25] - inJobInfo->maxDensity = 309
09:50:01:123 5 [8191,000000000] [ ] [PrintJob.cpp,28] - inJobInfo->borderDensity = 0
09:50:01:153 5 [8191,000000000] [ ] [PrintJob.cpp,31] - inJobInfo->numImages = 1
09:50:01:193 5 [8191,000000000] [ ] [PrintJob.cpp,34] - inJobInfo->gammaTable = 1
09:50:01:233 6 [8191,000000000] [ ] [ss.cpp,36] - ss_getPrinterStatus() started
09:50:01:273 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Sta Pr=1
09:50:01:313 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Sta Pr=1
09:50:01:353 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Sta Pr=10e0d
09:50:01:383 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:01:423 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:01:463 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Sta Y LT 103 Media=BWDryB,E14x17267A
09:50:01:503 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Sta Y LT 103 Media=BWDryB,E14x17
09:50:01:543 6 [8191,000000000] [ ] [ss_sendPageInfo.cpp,356] - ss_sendPageInfo() started
09:50:01:574 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Del Fmt=99 Box=All
09:50:01:614 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Del Fmt=99 Box=All
09:50:01:654 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Del Fmt=99 Box=All1813
09:50:01:694 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:01:734 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:01:764 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Del N BadVal=Fmt,991939
09:50:01:804 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Del N BadVal=Fmt,99
09:50:01:844 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Del Fmt=99
09:50:01:884 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Del Fmt=99
09:50:01:914 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Del Fmt=99106c
09:50:01:954 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:01:994 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:02:034 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Del N BadVal=Fmt,991939
09:50:02:074 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Del N BadVal=Fmt,99
09:50:02:104 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Del Def Img=All
09:50:02:144 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Del Def Img=All
09:50:02:184 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Del Def Img=All153d
09:50:02:214 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:02:255 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:02:295 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Del Y0B00
09:50:02:335 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Del Y
09:50:02:375 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Set Density=16 Size=0,0
09:50:02:405 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Set Density=16 Size=0,0
09:50:02:445 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Set Density=16 Size=0,01de9
09:50:02:485 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:02:525 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:03:376 6 [8191,000000000] [ ] [LaserImager.cpp,624] - CLaserImager::PollJobStatusChange() starts ------
09:50:03:406 6 [8191,000000000] [ ] [LaserImager.cpp,660] - CLaserImager::PollJobStatusChange() ends ******
09:50:03:446 6 [8191,000000000] [ ] [LaserImager.cpp,668] - CLaserImager::PollPrinterStatusChange() starts -----
09:50:03:486 6 [8191,000000000] [ ] [LaserImager.cpp,1174] - PollPrinterStatusChangeHelper() starts -----
09:50:03:526 6 [8191,000000000] [ ] [LaserImager.cpp,1207] - GetPrinterStatusHelper() starts -----
09:50:03:556 6 [8191,000000000] [ ] [LaserImager.cpp,702] - CLaserImager::Open() starts, maxRetries = 100retryWaitSeconds = 7
09:50:03:596 6 [8191,000000000] [ ] [LaserImager.cpp,732] - LIT in use by thread 0x201392935145, wait and retry #1

09:50:03:797 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Set Y0B17
09:50:03:837 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Set Y
09:50:03:867 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Fmt Id=99 DMax=309 Media=BWGen,E14X17
09:50:03:907 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Fmt Id=99 DMax=309 Media=BWGen,E14X17
09:50:03:947 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Fmt Id=99 DMax=309 Media=BWGen,E14X172b20
09:50:03:987 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:04:027 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:04:077 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Fmt Y0B12
09:50:04:117 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Fmt Y
09:50:04:147 6 [8191,000000000] [ ] [PrintJob.cpp,147] - CPrintJob::SetJobInfo() returns 0 ******
09:50:04:187 6 [8191,000000000] [ ] [PrintJob.cpp,157] - CPrintJob::NewImageBox() starts ------
09:50:04:227 6 [8191,000000000] [ ] [PrintJob.cpp,176] - CPrintJob::NewImageBox() returns 0 ******
09:50:04:297 6 [8191,000000000] [ ] [ImageBox.cpp,20] - CImageBox::SetImageInfo() starts ------
09:50:04:337 5 [8191,000000000] [ ] [ImageBox.cpp,35] - kernelGroup = 1interp# = 5modalityGroup = 6contrast = 6trim = 0rotate = 0
09:50:04:378 5 [8191,000000000] [ ] [ImageBox.cpp,47] - columns = 1024rows =1024bitsAllocated = 8bitsStored = 8highBit = 7pixelRep = 1
09:50:04:418 5 [8191,000000000] [ ] [ImageBox.cpp,53] - x0 = 0 y0 = 563 width = 4096 height = 4096
09:50:04:458 6 [8191,000000000] [ ] [ss_sendImageInfo.cpp,211] - ss_sendImageInfo() started
09:50:04:498 5 [8191,000000000] [ ] [ss_sendImageInfo.cpp,292] - RES, Free-form Format, imageID=2 index=0
09:50:04:538 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Res Imgs=2,1024,1024
09:50:04:578 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Res Imgs=2,1024,1024
09:50:04:608 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Res Imgs=2,1024,10241ac1
09:50:04:648 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:04:688 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:04:808 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Res Y0B15
09:50:04:848 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Res Y
09:50:04:888 5 [8191,000000000] [ ] [ss_sendImageInfo.cpp,297] - BOX, Free-form Format, boxID=2
09:50:04:928 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Box Id=2 Fmt=99 Loc=132,666 Size=4096,4096 Beta=5,5 Con=6
09:50:04:968 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Box Id=2 Fmt=99 Loc=132,666 Size=4096,4096 Beta=5,5 Con=6
09:50:04:998 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Box Id=2 Fmt=99 Loc=132,666 Size=4096,4096 Beta=5,5 Con=63fbf
09:50:05:039 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:05:079 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:05:189 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Box Y0B14
09:50:05:229 5 [8191,000000000] [ ] [ss_sendCommand.cpp,270] - LIT::Get Response: Box Y
09:50:05:269 5 [8191,000000000] [ ] [ss_sendImageInfo.cpp,302] - STO, Free-form Format
09:50:05:299 5 [8191,000000000] [ ] [ss_sendImageInfo.cpp,303] - LIT::Send Command: Sto Img=2 Depth=8
09:50:05:339 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Sto Img=2 Depth=8
09:50:05:379 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Sto Img=2 Depth=817d4
09:50:05:419 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags
09:50:05:459 5 [8191,000000000] [ ] [ccpacket.cpp,57] - Packet::signalAck() Ack received
09:50:05:499 5 [8191,000000000] [ ] [ImageBox.cpp,283] - CImageBox::SetImageInfo() returns 0x = 20139293510
09:50:05:539 6 [8191,000000000] [ ] [ImageBox.cpp,311] - CImageBox::PrintData() starts ------
09:50:06:350 5 [8191,000000000] [ ] [ccpacket.cpp,402] - Warn SuperSet::getPacket. End of packet Sto Y Size=1024,10241AD3
09:50:06:431 5 [8191,000000000] [ ] [ss_sendImageData.cpp,161] - LIT::Get Response: Sto Y Size=1024,1024
09:50:06:461 5 [8191,000000000] [ ] [ImageBox.cpp,394] - lit_sendImageData() time = 0.88649 seconds
09:50:06:501 6 [8191,000000000] [ ] [PrintJob.cpp,186] - CPrintJob::PrintPage() starts ------
09:50:06:541 6 [8191,000000000] [ ] [ss_printPage.cpp,22] - ss_printPage() started
09:50:06:581 6 [8191,000000000] [ ] [ss_sendCommand.cpp,233] - LIT::Send Command: Sto Test=3 DPatch
09:50:06:621 6 [8191,000000000] [ ] [dim.cpp,2065] - SendCommand(). To ccpacket: Sto Test=3 DPatch
09:50:06:651 6 [8191,000000000] [ ] [ccpacket.cpp,595] - SuperSet::putPacket. Sending packet _Sto Test=3 DPatch1722
09:50:06:691 5 [8191,000000000] [ ] [ccpacket.cpp,89] - Packet::clearAck() Clearing Ack/Nack flags

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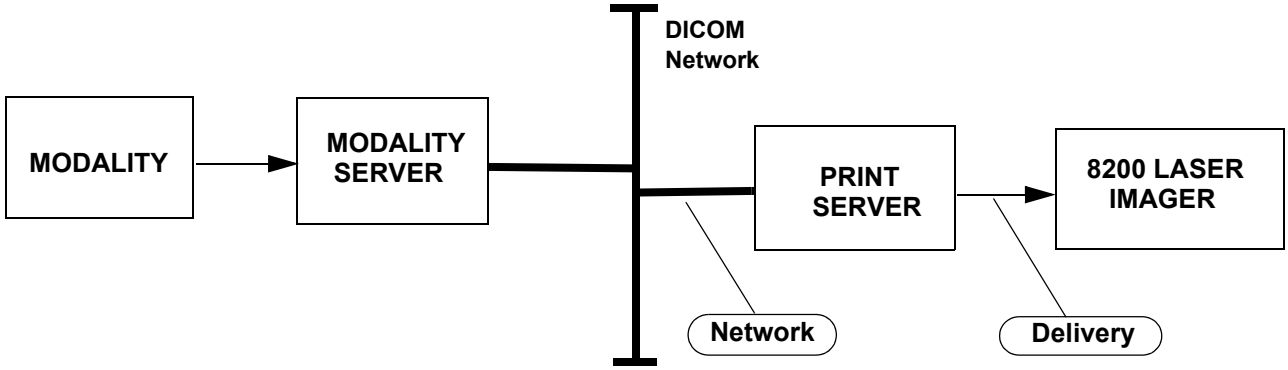
09:50:06:731 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:50:07:212 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Sto Y Size=280,23173A
09:50:07:252 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Sto Y Size=280,23
09:50:07:282 6 [8191,000000000] [     ] [ss_sendCommand.cpp,233] -  LIT::Send Command: Pri Fmt=99 Img=2 Cps=1 Dens=3
09:50:07:322 6 [8191,000000000] [     ] [dim.cpp,2065] -  SendCommand(). To ccpacket: Pri Fmt=99 Img=2 Cps=1 Dens=3
09:50:07:362 6 [8191,000000000] [     ] [ccpacket.cpp,595] -  SuperSet::putPacket. Sending packet _Pri Fmt=99 Img=2 Cps=1 Dens=32300
09:50:07:402 5 [8191,000000000] [     ] [ccpacket.cpp,89] -  Packet::clearAck() Clearing Ack/Nack flags
09:50:07:442 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:50:07:722 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Pri Y Job=1112E1
09:50:07:762 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Pri Y Job=11
09:50:07:802 5 [8191,000000000] [     ] [ss_printPage.cpp,217] -  ss_printPage(): Job ID = 11
09:50:07:843 6 [8191,000000000] [     ] [ss_sendCommand.cpp,233] -  LIT::Send Command: Del Def Img=3,2
09:50:07:883 6 [8191,000000000] [     ] [dim.cpp,2065] -  SendCommand(). To ccpacket: Del Def Img=3,2
09:50:07:923 6 [8191,000000000] [     ] [ccpacket.cpp,595] -  SuperSet::putPacket. Sending packet _Del Def Img=3,215b5
09:50:07:953 5 [8191,000000000] [     ] [ccpacket.cpp,89] -  Packet::clearAck() Clearing Ack/Nack flags
09:50:07:993 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:50:08:033 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Del Y0B00
09:50:08:073 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Del Y
09:50:08:113 6 [8191,000000000] [     ] [ss_sendCommand.cpp,233] -  LIT::Send Command: Del Fmt=99 Box=All
09:50:08:153 6 [8191,000000000] [     ] [dim.cpp,2065] -  SendCommand(). To ccpacket: Del Fmt=99 Box=All
09:50:08:193 6 [8191,000000000] [     ] [ccpacket.cpp,595] -  SuperSet::putPacket. Sending packet _Del Fmt=99 Box=All1813
09:50:08:223 5 [8191,000000000] [     ] [ccpacket.cpp,89] -  Packet::clearAck() Clearing Ack/Nack flags
09:50:08:263 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:50:08:303 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Del Y0B00
09:50:08:343 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Del Y
09:50:08:383 6 [8191,000000000] [     ] [ss_sendCommand.cpp,233] -  LIT::Send Command: Del Fmt=99
09:50:08:413 6 [8191,000000000] [     ] [dim.cpp,2065] -  SendCommand(). To ccpacket: Del Fmt=99
09:50:08:453 6 [8191,000000000] [     ] [ccpacket.cpp,595] -  SuperSet::putPacket. Sending packet _Del Fmt=99106c
09:50:08:493 5 [8191,000000000] [     ] [ccpacket.cpp,89] -  Packet::clearAck() Clearing Ack/Nack flags
09:50:08:534 5 [8191,000000000] [     ] [ccpacket.cpp,57] -  Packet::signalAck() Ack received
09:50:08:574 5 [8191,000000000] [     ] [ccpacket.cpp,402] -  Warn SuperSet::getPacket. End of packet Del Y0B00
09:50:08:614 5 [8191,000000000] [     ] [ss_sendCommand.cpp,270] -  LIT::Get Response: Del Y
09:50:08:644 6 [8191,000000000] [     ] [LaserImager.cpp,683] -  CLaserImager::AddJobID() starts ------
09:50:08:684 6 [8191,000000000] [     ] [LaserImager.cpp,695] -  CLaserImager::AddJobID() ends ******
09:50:08:724 6 [8191,000000000] [     ] [LaserImager.cpp,778] -  CLaserImager::Close() starts, thread 0x201392935145 ------
09:50:08:764 6 [8191,000000000] [     ] [dim.cpp,1786] -  Dim:Stop() starts ------
09:50:08:804 6 [8191,000000000] [     ] [SMessage.cpp,80] -  in SMessage::close().
09:50:08:834 6 [8191,000000000] [     ] [SMessage.cpp,72] -  in SMessage::~SMessage().
09:50:08:874 6 [8191,000000000] [     ] [SMessage.cpp,80] -  in SMessage::close().
09:50:08:914 6 [8191,000000000] [     ] [dim.cpp,1288] -  Dim:DeleteDataConnection() starts ------
09:50:08:954 6 [8191,000000000] [     ] [LaserImager.cpp,791] -  CLaserImager::Close() ends ******
09:50:08:984 6 [8191,000000000] [     ] [PrintJob.cpp,218] -  CPrintJob::PrintPage() returns 0 ******
09:50:09:024 4 [8191,000000000] [     ] [PrintJob.h,55] -  CPrintJob::FinalRelease() this = 0x20139293513153104
09:50:09:104 2 [8191,000675670] [     ] [NetworkArbiter.cpp,350] -  NetworkArbiter::QueueRemove - no print jobs pending on idle printers
09:50:09:144 4 [8191,000677206] [     ] [PhotonPrinter.cpp,503] -  Pecan ReadyEvent is signaled
09:50:09:675 6 [8191,000000000] [     ] [Destination.cpp,4391] -  Destination Class is Handling: GetAllDirectDestinations()
09:50:09:755 6 [8191,000695382] [DICOM] [Patient.cpp,1050] -  Entering Patient::ReleaseRef()
09:50:09:795 6 [8191,000695382] [DICOM] [Patient.cpp,1019] -  Entering Patient::~Patient()
09:50:09:825 6 [8191,000000000] [     ] [Destination.cpp,4391] -  Destination Class is Handling: GetAllDirectDestinations()
09:50:10:596 6 [8191,000000000] [     ] [LaserImager.cpp,740] -  Got LIT Open Mutex!
09:50:10:627 6 [8191,000000000] [     ] [LaserImager.cpp,745] -  lit_init() is done
09:50:10:667 6 [8191,000000000] [     ] [LaserImager.cpp,768] -  lit_open() successful
09:50:10:707 6 [8191,000000000] [     ] [LaserImager.cpp,770] -  CLaserImager::Open() returns true ******
```

(Log continues....)

Sample Log 11 - MODALITY SERVER to PRINT SERVER to *Kodak DryView* 8200 LASER IMAGER - This log is for an SCP receiving DICOM input from an SCU and sending it to a *Kodak DryView* 8200 LASER IMAGER for printing. The logs have been filtered to include only the log for the **Network** and **Delivery Subsystems**, set at level 5.



11/30/01 16:19:04:501 3 [3058,00036611] [ ] [MIMDicomInterface.cpp,334] - SCU Assoc#10247 8200: Reporting status is stale (no longer being updated)
11/30/01 16:19:04:501 4 [3058,23691267] [ ] [MIMPrintService.cpp,3678] - Printer Status Request End (Received)
11/30/01 16:19:04:501 4 [3058,00036611] [ ] [MIMDicomInterface.cpp,275] - SCU Assoc#10247 8200: Releasing (8200)...
11/30/01 16:19:04:501 2 [3058,00036611] [ ] [MIMDicomInterface.cpp,333] - SCU Assoc#10247 Down (8200)
11/30/01 16:19:04:501 5 [3058,23691267] [ ] [MIMPrintService.cpp,1376] - SCU Assoc#10247 8200: Received status for 8200=> Severity:NORMAL Status:NORMAL. (Get)
11/30/01 16:19:09:508 4 [3049,23691523] [ ] [TonescaleResolver.cpp,163] - TonescaleResolve - PLUT : DicomTonescaleResolver Destructed
11/30/01 16:19:09:508 5 [3058,23691267] [ ] [MIMPrintService.cpp,276] - MIMPrintService destructing for 8200
11/30/01 16:19:09:508 4 [3056,23690755] [ ] [TonescaleResolver.cpp,486] - TonescaleResolve - PLUT : TonescaleResolver Destructed
11/30/01 16:19:09:508 4 [3056,23691779] [ ] [TonescaleResolver.cpp,486] - TonescaleResolve - PLUT : TonescaleResolver Destructed
11/30/01 16:19:09:508 4 [3049,23690499] [ ] [TonescaleResolver.cpp,163] - TonescaleResolve - PLUT : DicomTonescaleResolver Destructed
11/30/01 16:19:09:508 5 [3058,23690243] [ ] [MIMPrintService.cpp,276] - MIMPrintService destructing for 8200
11/30/01 16:19:14:516 4 [3056,23693059] [ ] [TonescaleResolver.cpp,473] - TonescaleResolve - PLUT : TonescaleResolver Constructed
11/30/01 16:19:14:516 4 [3049,23692803] [ ] [TonescaleResolver.cpp,148] - TonescaleResolve - PLUT : DicomTonescaleResolver Constructed
11/30/01 16:19:14:516 5 [3058,23692547] [ ] [MIMPrintService.cpp,208] - MIMPrintService constructing for 8200
11/30/01 16:19:14:516 4 [3058,00036611] [ ] [MIMDicomInterface.cpp,130] - SCU Assoc#10248 Job # **** Dest-8200
11/30/01 16:19:14:516 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data
11/30/01 16:19:14:516 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms
11/30/01 16:19:14:516 5 [3058,00036611] [ ] [MIMDicomInterface.cpp,98] - SCU Starts connection to 8200 AE:NER_ANY IP:100.100.100.40 Port:1025 MyAE:MIMBLACK
11/30/01 16:19:14:516 5 [3058,00036611] [ ] [MIMDicomInterface.cpp,141] - Successfully PINGED 100.100.100.40
11/30/01 16:19:14:516 5 [3058,23693571] [ ] [MIMPrintService.cpp,238] - MIMPrintService constructing for 8200
11/30/01 16:19:14:516 4 [3056,23694083] [ ] [TonescaleResolver.cpp,473] - TonescaleResolve - PLUT : TonescaleResolver Constructed
11/30/01 16:19:14:516 4 [3049,23693827] [ ] [TonescaleResolver.cpp,148] - TonescaleResolve - PLUT : DicomTonescaleResolver Constructed
11/30/01 16:19:14:526 5 [3058,00036611] [ ] [MIMDicomPrintInterface.cpp,446] - SCU Assoc#10248 8200: PresentationLUTService, ImplicitVRLittleEndian was not accepted.
11/30/01 16:19:14:526 4 [3058,00036611] [ ] [MIMDicomInterface.cpp,323] - SCU Assoc#10248 Up (8200)
11/30/01 16:19:14:526 4 [3058,23693571] [ ] [MIMPrintService.cpp,3673] - Printer Status Request Start
11/30/01 16:19:14:526 5 [3058,00036611] [ ] [MIMDicomPrintInterface.cpp,431] - SCU Assoc#10248 8200: grayscale print, ImplicitVRLittleEndian accepted.
11/30/01 16:19:33:243 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms
11/30/01 16:19:33:243 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data
11/30/01 16:19:52:270 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data

11/30/01 16:19:52:270 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms
11/30/01 16:20:09:695 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms
11/30/01 16:20:09:695 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data
11/30/01 16:20:29:724 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms
11/30/01 16:20:29:724 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data
11/30/01 16:20:48:651 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms
11/30/01 16:20:48:651 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data
11/30/01 16:21:07:879 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data
11/30/01 16:21:07:879 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,1528] - SCP Assoc#10255: Find the perfect Name match for 8200
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,840] - SCP Assoc#10255: SCU/Modality AE Title = MIM150
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,845] - SCP Assoc#10255: SCU/Host IP Address = 149.98.199.90
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,846] - SCP Assoc#10255: SCU/Implement Version Name = not specified
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,847] - SCP Assoc#10255: SCU/Implement UID = 1.2.840.113564.3.1.3
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,1466] - SCP Assoc#10255: Destination AE Title = NER_8200
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,1504] - SCP Assoc#10255: Destination Name = 8200
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,1523] - SCP Assoc#10255: The Default Printer is 8200
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,836] - SCP Assoc#10255:===> NEW CONNECTION OPENED <===
11/30/01 16:21:18:624 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,1743] - SCP Assoc#10255: The Printer being used for this session is 8200
11/30/01 16:21:19:986 3 [4031,23708675] [ ] [MIMPrintAcse.cpp,710] - SCP Assoc#10255: Verification SOP negotiated.
11/30/01 16:21:19:986 5 [4031,23708675] [ ] [MIMPrintAcse.cpp,911] - SCP Assoc#10255: N-Event Reporting (NER) is ON
11/30/01 16:21:19:996 3 [4031,23708675] [ ] [MIMPrintAcse.cpp,702] - SCP Assoc#10255: Basic Annotation Box SOP negotiated.
11/30/01 16:21:19:996 3 [4031,23708675] [ ] [MIMPrintAcse.cpp,706] - SCP Assoc#10255: Presentation LUT SOP negotiated.
11/30/01 16:21:19:996 3 [4031,23708675] [ ] [MIMPrintAcse.cpp,694] - SCP Assoc#10255: Basic Grayscale Print Meta SOP negotiated.
11/30/01 16:21:20:016 5 [4045,23712515] [ ] [SCPPrinter.cpp,202] - SCP Assoc#10255: Sending status for 8200=> Severity:NORMAL Status:NORMAL. (NER)
11/30/01 16:21:20:026 2 [4042,23708931] [ ] [MIMDicomDevice.cpp,59] - SCP Assoc#10255 Up for 8200 from modality MIM150
11/30/01 16:21:20:036 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3753] - SCP Assoc#10255: Sending Printer SOP [N-GET]
11/30/01 16:21:20:036 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3792] - SCP Assoc#10255: Sending status for 8200=> Severity:NORMAL Status:NORMAL. (N-Get)
11/30/01 16:21:21:358 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1670] - SCP Assoc#10255: Creating Film Session (FS) [N-CREATE]
11/30/01 16:21:21:398 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1689] - SCP Assoc#10255: FS default Contrast: 0 (from Connection DB)
11/30/01 16:21:21:458 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1746] - SCP Assoc#10255: FS default Modality: CT (from Dicom)
11/30/01 16:21:21:488 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1826] - SCP Assoc#10255: FS Copies: 1
11/30/01 16:21:21:488 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1817] - SCP Assoc#10255: Setting Film Session (FS) [N-SET]
11/30/01 16:21:21:498 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1944] - SCP Assoc#10255: FS Medium Type: DONT_CARE_BASE
11/30/01 16:21:21:498 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1982] - SCP Assoc#10255: FS Using FilmBase from Connection DB
11/30/01 16:21:21:498 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1888] - SCP Assoc#10255: FS Print Priority: MED
11/30/01 16:21:21:498 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2002] - SCP Assoc#10255: FS Value received for FilmBase was BLUE FILM
11/30/01 16:21:22:009 5 [4041,23711491] [DICOM] [MIMPresentationLUTSCP.cpp,118] - SCP Assoc#10255: PLUT Creating Presentation LUT (PLUT) [N-CREATE]
11/30/01 16:21:22:400 5 [4041,23711491] [DICOM] [MIMPresentationLUTSCP.cpp,274] - SCP Assoc#10255: PLUT uid:1.2.840.113564.3.5040.2001.11.30.14.22.30.3
11/30/01 16:21:22:630 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2193] - SCP Assoc#10255: Creating Film Box (FB) [N-CREATE]
11/30/01 16:21:22:680 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2234] - SCP Assoc#10255: FB get FilmSize from ConnectionDB = 14INX17IN
11/30/01 16:21:22:690 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2302] - SCP Assoc#10255: FB Using FilmSize from Dicom
11/30/01 16:21:22:690 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2317] - SCP Assoc#10255: FB Checking the FilmSize value of 14INX17IN

11/30/01 16:21:22:690 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2265] - SCP Assoc#10255: FB get FilmSize from Dicom = 14INX17IN

11/30/01 16:21:22:740 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2426] - SCP Assoc#10255: FB Using FilmType of 14INX17IN with Base of BLUE FILM

11/30/01 16:21:22:740 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2445] - SCP Assoc#10255: FB Film Orientation: PORTRAIT

11/30/01 16:21:22:740 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2505] - SCP Assoc#10255: FB Image Display Format: STANDARD\2,2

11/30/01 16:21:22:740 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2560] - SCP Assoc#10255: FB Contrast: 0 (from Connection DB)

11/30/01 16:21:22:740 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2576] - SCP Assoc#10255: FB Set default contrast to 0

11/30/01 16:21:22:810 2 [4030,23709187] [DICOM] [PrintSCPService.cpp,2683] - SCP Assoc#10255: FB Unsupported Annotation Display Format: NONE

11/30/01 16:21:22:810 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2667] - SCP Assoc#10255: FB Annotation Display Format: NONE

11/30/01 16:21:22:820 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2754] - SCP Assoc#10255: FB Max Density: 3.

11/30/01 16:21:22:830 2 [4030,23709187] [DICOM] [PrintSCPService.cpp,2796] - SCP Assoc#10255: FB all DRYVIEW use Min Density of 0.21

11/30/01 16:21:22:840 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2884] - SCP Assoc#10255: FB Border Density: BLACK

11/30/01 16:21:22:870 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,2981] - SCP Assoc#10255: FB Trim: NO

11/30/01 16:21:22:890 3 [4030,23709187] [DICOM] [PrintSCPService.cpp,3356] - SCP Assoc#10255: FB set to TFT by default

11/30/01 16:21:22:890 4 [4030,23709187] [DICOM] [PrintSCPService.cpp,3056] - SCP Assoc#10255: FB Configuration Information: LUT=VER693C0.W87,006

11/30/01 16:21:22:890 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3380] - SCP Assoc#10255: FB Magnification Type: CUBIC

11/30/01 16:21:22:890 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3392] - SCP Assoc#10255: FB Smoothing Type: 5

11/30/01 16:21:22:910 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3481] - SCP Assoc#10255: FB receives PLUT uid: 1.2.840.113564.3.5040.2001.11.30.14.22.30.3

11/30/01 16:21:22:920 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3497] - SCP Assoc#10255: FB Illumination: 2000

11/30/01 16:21:22:930 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3526] - SCP Assoc#10255: FB Reflected Ambient Light: 10

11/30/01 16:21:23:251 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3566] - SCP Assoc#10255: IB Rows: 512

11/30/01 16:21:23:251 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3576] - SCP Assoc#10255: IB Columns: 548

11/30/01 16:21:23:251 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3583] - SCP Assoc#10255: IB Bits Allocated: 8

11/30/01 16:21:23:251 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,848] - SCP Assoc#10255: Setting Image Box (IB) for Position 1 [N-SET]

11/30/01 16:21:23:251 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3601] - SCP Assoc#10255: IB Bits Per Pixel (stored): 8

11/30/01 16:21:23:261 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3649] - SCP Assoc#10255: IB Pixel Aspect Ratio: 1:1

11/30/01 16:21:23:261 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3679] - SCP Assoc#10255: IB Photometric Interpretation: MONOCHROME2

11/30/01 16:21:23:261 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3632] - SCP Assoc#10255: IB High Bit: 7

11/30/01 16:21:23:301 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1197] - SCP Assoc#10255: IB Magnification Type: CUBIC

11/30/01 16:21:23:301 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1215] - SCP Assoc#10255: IB Smoothing Type: 5

11/30/01 16:21:23:301 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1166] - SCP Assoc#10255: IB Polarity: NORMAL (from Dicom)

11/30/01 16:21:23:311 4 [4030,23709187] [DICOM] [PrintSCPService.cpp,1333] - SCP Assoc#10255: IB Configuration Information: LUT=Ver693c0.w87,006

11/30/01 16:21:23:321 3 [4030,23709187] [DICOM] [PrintSCPService.cpp,1452] - SCP Assoc#10255: IB Set TFT: Ver693c0.w87

11/30/01 16:21:23:321 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1453] - SCP Assoc#10255: IB Set Dry Contrast: 6

11/30/01 16:21:23:321 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1515] - SCP Assoc#10255: IB Body Part: DEFAULT (from Connection DB)

11/30/01 16:21:23:351 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1616] - SCP Assoc#10255: IB Image Tone Adjustment: 0 (from Connection DB)

11/30/01 16:21:23:351 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1583] - SCP Assoc#10255: IB Color Profile: @DEF0 (from Connection DB)

11/30/01 16:21:23:361 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1063] - SCP Assoc#10255: IB uses PLUT uid: 1.2.840.113564.3.5040.2001.11.30.14.22.30.3

11/30/01 16:21:23:361 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1040] - SCP Assoc#10255: IB found an Image's PLUT

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3566] - SCP Assoc#10255: IB Rows: 512

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,848] - SCP Assoc#10255: Setting Image Box (IB) for Position 2 [N-SET]

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3576] - SCP Assoc#10255: IB Columns: 548

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3583] - SCP Assoc#10255: IB Bits Allocated: 8

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3601] - SCP Assoc#10255: IB Bits Per Pixel (stored): 8

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3632] - SCP Assoc#10255: IB High Bit: 7

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3649] - SCP Assoc#10255: IB Pixel Aspect Ratio: 1:1

11/30/01 16:21:23:771 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,3679] - SCP Assoc#10255: IB Photometric Interpretation: MONOCHROME2

11/30/01 16:21:23:782 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1197] - SCP Assoc#10255: IB Magnification Type: CUBIC

11/30/01 16:21:23:782 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1215] - SCP Assoc#10255: IB Smoothing Type: 5

11/30/01 16:21:23:782 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1166] - SCP Assoc#10255: IB Polarity: NORMAL (from Dicom)

11/30/01 16:21:23:792 3 [4030,23709187] [DICOM] [PrintSCPService.cpp,1452] - SCP Assoc#10255: IB Set TFT: Ver693c0.w87

11/30/01 16:21:23:792 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1453] - SCP Assoc#10255: IB Set Dry Contrast: 6

11/30/01 16:21:23:792 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1515] - SCP Assoc#10255: IB Body Part: DEFAULT (from Connection DB)

11/30/01 16:21:23:792 4 [4030,23709187] [DICOM] [PrintSCPService.cpp,1333] - SCP Assoc#10255: IB Configuration Information: LUT=Ver693c0.w87,006

11/30/01 16:21:23:842 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1583] - SCP Assoc#10255: IB Color Profile: @DEF0 (from Connection DB)

11/30/01 16:21:23:852 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1040] - SCP Assoc#10255: IB found an Image's PLUT

11/30/01 16:21:23:852 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1063] - SCP Assoc#10255: IB uses PLUT uid: 1.2.840.113564.3.5040.2001.11.30.14.22.30.3

11/30/01 16:21:23:852 5 [4030,23709187] [DICOM] [PrintSCPService.cpp,1616] - SCP Assoc#10255: IB Image Tone Adjustment: 0 (from Connection DB)

11/30/01 16:21:27:507 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,350] - Reply (1) from 100.100.100.40: bytes=12 time=0 ms

11/30/01 16:21:27:507 3 [4008,00029955] [ ] [NetworkServicesFactory.cpp,322] - Pinging 100.100.100.40 with 12 bytes of data

11/30/01 16:21:29:089 2 [4042,23708931] [ ] [MIMDicomDevice.cpp,78] - SCP Assoc#10255 Down

(Log continues....)

Using *Windows* 2000 EXPLORE on the MIM through *pcAnywhere* REMOTE CONTROL SOFTWARE

[1] Connect the LAPTOP COMPUTER to the MIM.

[2] Start the *pcAnywhere* application and connect with the MIM.

[3] At the taskbar, right-click **Start**.

[4] Click **Explore**.

The Explore Window for the MIM appears.

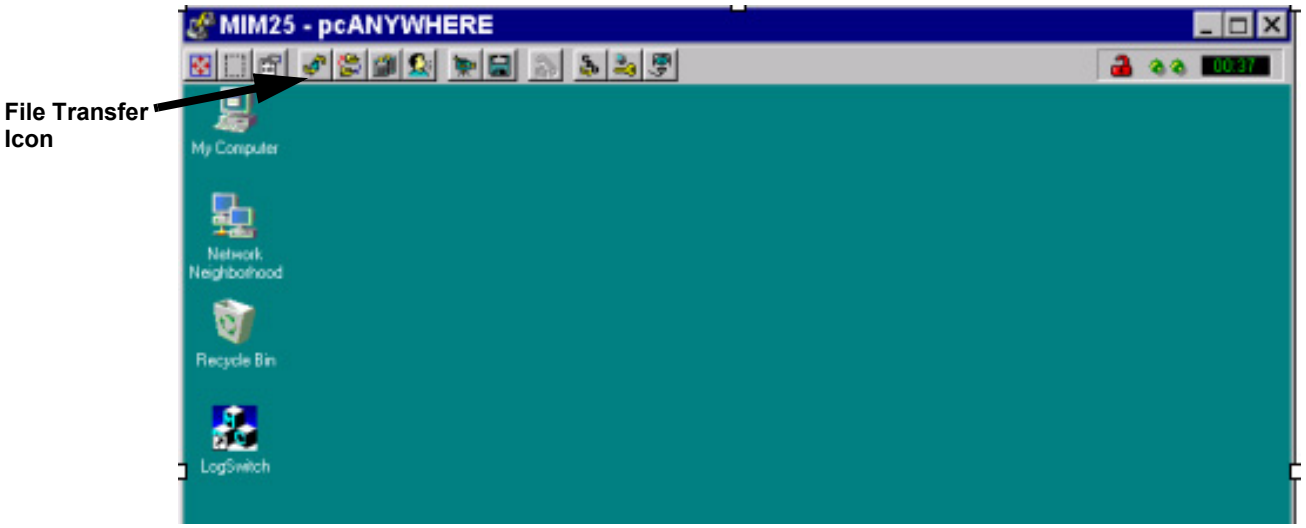
[5] Use *Windows* EXPLORE to find and move files as necessary.

Transferring Files Using *pcAnywhere* REMOTE CONTROL SOFTWARE

The *pcAnywhere* FILE TRANSFER FEATURE allows you to easily transfer files between your LAPTOP COMPUTER and the MIM.

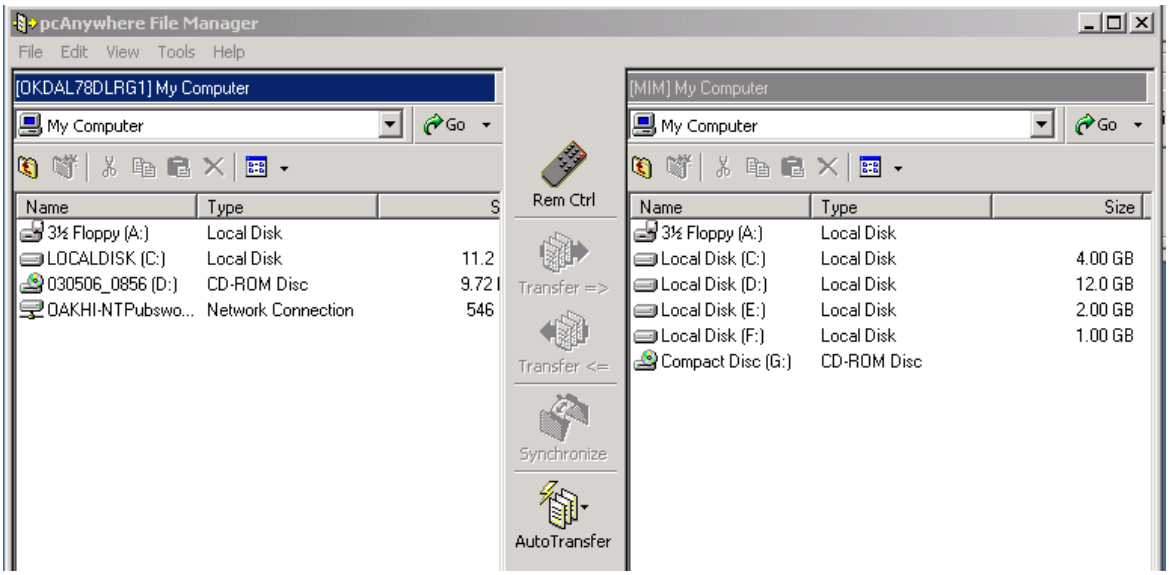
[1] Connect the LAPTOP COMPUTER to the MIM.

[2] Start the *pcAnywhere* application and connect with the MIM.



[3] Click the **File Transfer** icon.

The *pcAnywhere* File Manager screen appears. The left pane shows files on your LAPTOP COMPUTER. The right pane shows files on the MIM. You can copy files between panes in either direction.



[4] Locate the file to be transferred

[5] Locate the destination folder in the other pane. (Create one, if necessary.)

[6] Click the Transfer icon to copy the file to the destination.

Using *Windows* TASK MANAGER from *pcAnywhere* REMOTE CONTROL SOFTWARE

Task Manager is a tool within *Windows* 2000 that allows the user to determine what tasks are running on the computer and what tasks are not responding. It also can display CPU and memory usage either by application or for the whole system.

[1] Connect the LAPTOP COMPUTER to the MIM.

[2] Start the *pcAnywhere* application and connect with the MIM.

The MIM desktop will display.

[3] Display the Task Manager Applications window by either:

- Right-clicking the lower task bar and selecting Task Manager.
- Clicking the [C-A-D] button on the *pcANYWHERE* upper task bar and then selecting the [Task Manager] button.

Windows Task Manager
File Options View Windows Help
Applications Processes Performance
Task Status
Remote Network Interface Running
MIMRoute Running
Console Running
Exploring - A:\ Running
End Task Switch To New Task...
Processes: 31 CPU Usage: 1% Mem Usage: 63048K / 424584K

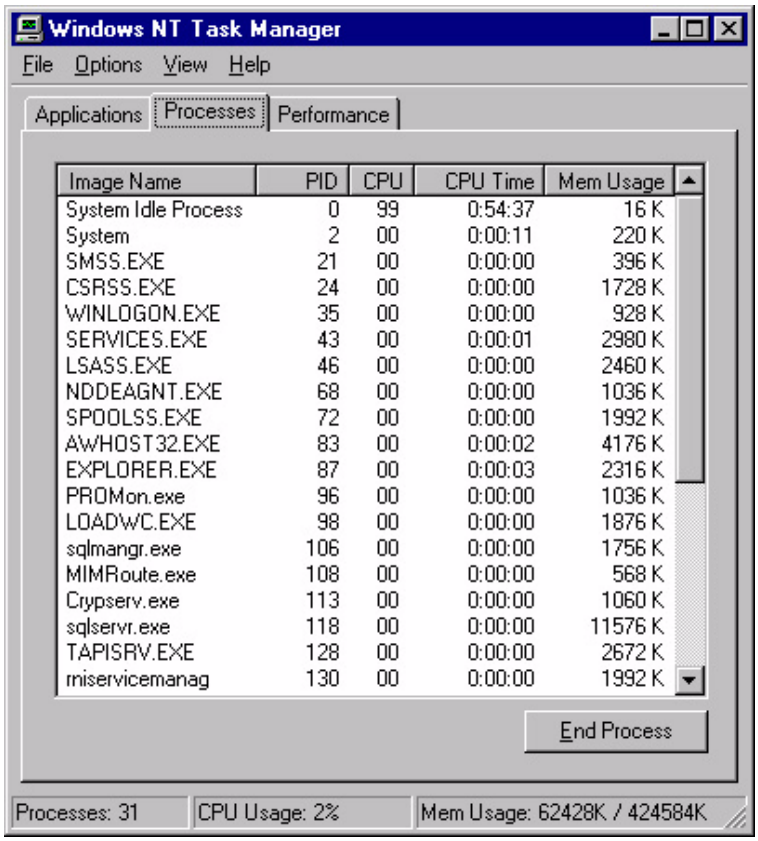
[4] If the "Applications" window does not appear, click the [Applications] tab to display it.

Note

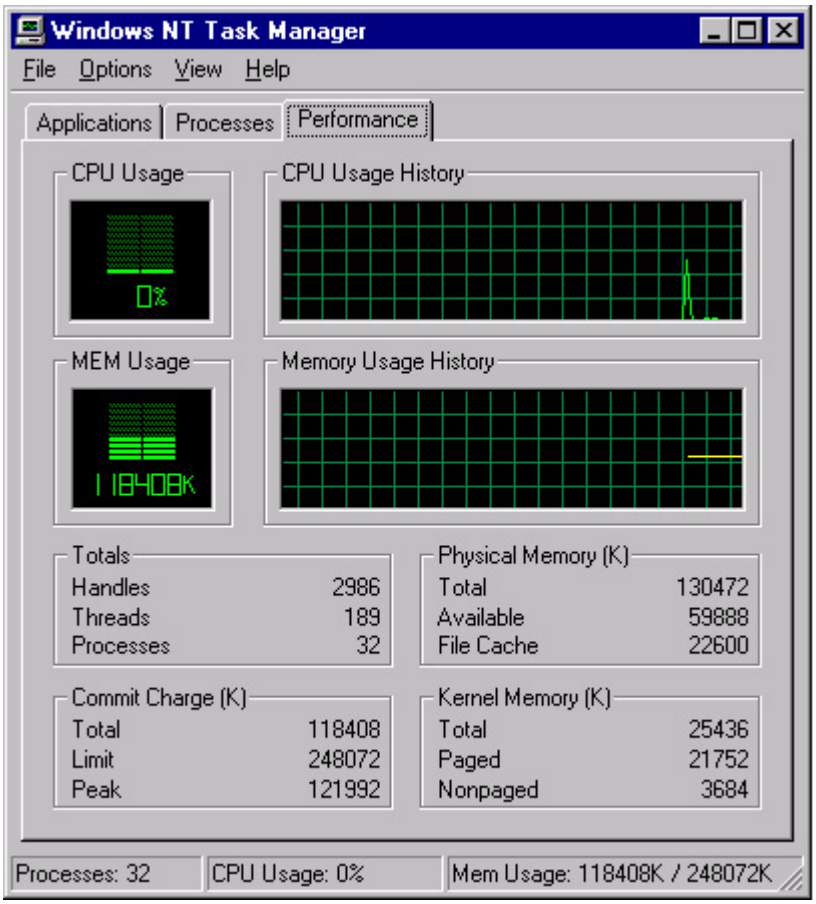
The Task Manager Applications window lists all active applications. If the MIM is running, at least the following tasks should display:

- Remote Network Interface (system software)
- MIMRoute (the port routing application). This application runs only on PRINT SERVERS.

[5] Click the [Processes] tab to display the "Processes" window, which monitors computer and memory usage by application:


Windows NT Task Manager
File Options View Help
Applications Processes Performance
Image Name PID CPU CPU Time Mem Usage
System Idle Process 0 99 0:54:37 16 K
System 2 00 0:00:11 220 K
SMSS.EXE 21 00 0:00:00 396 K
CSRSS.EXE 24 00 0:00:00 1728 K
WINLOGON.EXE 35 00 0:00:00 928 K
SERVICES.EXE 43 00 0:00:01 2980 K
LSASS.EXE 46 00 0:00:00 2460 K
NDDEAGNT.EXE 68 00 0:00:00 1036 K
SPOOLSS.EXE 72 00 0:00:00 1992 K
AWHOST32.EXE 83 00 0:00:02 4176 K
EXPLORER.EXE 87 00 0:00:03 2316 K
PROMon.exe 96 00 0:00:00 1036 K
LOADWC.EXE 98 00 0:00:00 1876 K
sqlmangr.exe 106 00 0:00:00 1756 K
MIMRoute.exe 108 00 0:00:00 568 K
Crypserv.exe 113 00 0:00:00 1060 K
sqlservr.exe 118 00 0:00:00 11576 K
TAPISRV.EXE 128 00 0:00:00 2672 K
rniservicemanag 130 00 0:00:00 1992 K
End Process
Processes: 31 CPU Usage: 2% Mem Usage: 62428K / 424584K

[6] Click the [Performance] tab to display the "Performance" window, which provides a graphic of COMPUTER and memory usage for the entire system:



Using NT Event Viewer from *pcAnywhere* REMOTE CONTROL SOFTWARE

Event Viewer is a *Windows* 2000 function that can be used to display information relating to COMPUTER processes. It can help to:

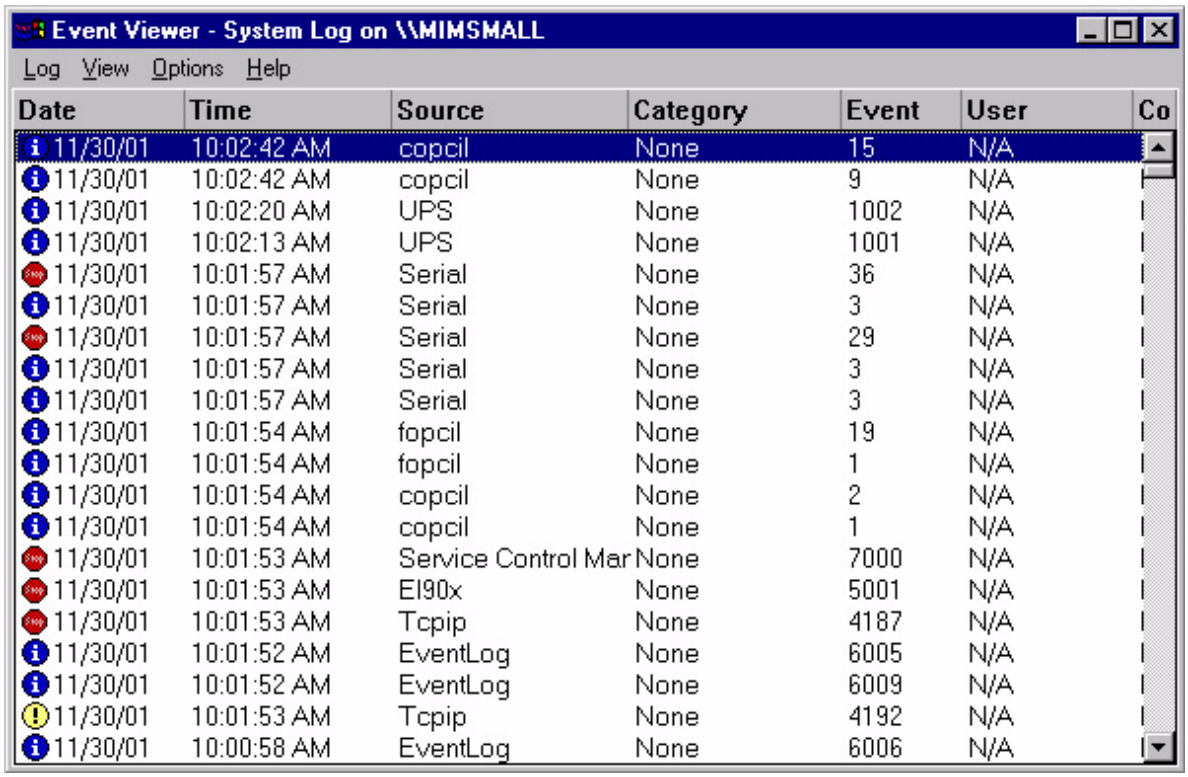
- Detect COMPUTER hardware problems
- Study communication processes.

[1] Connect the LAPTOP COMPUTER to the MIM.

[2] Start the *pcAnywhere* application and connect to the MIM

The MIM desktop will display.

[3] From the MIM taskbar, select **Start>Programs>Administrative Tools (Common)>Event Viewer**.



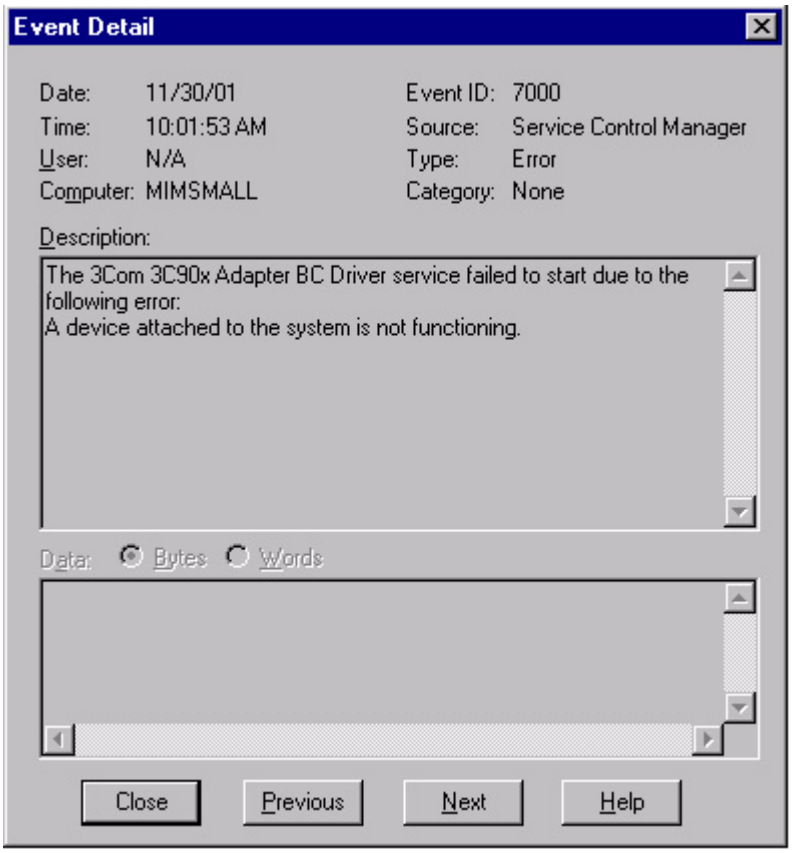
Date	Time	Source	Category	Event	User	Co
11/30/01	10:02:42 AM	copcil	None	15	N/A	
11/30/01	10:02:42 AM	copcil	None	9	N/A	
11/30/01	10:02:20 AM	UPS	None	1002	N/A	
11/30/01	10:02:13 AM	UPS	None	1001	N/A	
11/30/01	10:01:57 AM	Serial	None	36	N/A	
11/30/01	10:01:57 AM	Serial	None	3	N/A	
11/30/01	10:01:57 AM	Serial	None	29	N/A	
11/30/01	10:01:57 AM	Serial	None	3	N/A	
11/30/01	10:01:57 AM	Serial	None	3	N/A	
11/30/01	10:01:54 AM	fopcil	None	19	N/A	
11/30/01	10:01:54 AM	fopcil	None	1	N/A	
11/30/01	10:01:54 AM	copcil	None	2	N/A	
11/30/01	10:01:54 AM	copcil	None	1	N/A	
11/30/01	10:01:53 AM	Service Control Mar	None	7000	N/A	
11/30/01	10:01:53 AM	EI90x	None	5001	N/A	
11/30/01	10:01:53 AM	Tcpip	None	4187	N/A	
11/30/01	10:01:52 AM	EventLog	None	6005	N/A	
11/30/01	10:01:52 AM	EventLog	None	6009	N/A	
11/30/01	10:01:53 AM	Tcpip	None	4192	N/A	
11/30/01	10:00:58 AM	EventLog	None	6006	N/A	

Note

NT Event Viewer displays a table showing system process "events."

- A red flag indicates a possible error condition.
- A yellow flag is a warning of a possible problem.
- A blue flag indicates the information relates to a "normal" operation.

[4] Double-click on any line to display information relating to that line. For example:


Event Detail
Date: 11/30/01
Time: 10:01:53 AM
User: N/A
Computer: MIMSMALL
Event ID: 7000
Source: Service Control Manager
Type: Error
Category: None
Description:
The 3Com 3C90x Adapter BC Driver service failed to start due to the following error:
A device attached to the system is not functioning.
Data: Bytes Words
Close
Previous
Next
Help

Power-On Problems

The following paragraphs provide information for on problems that occur during the power-on sequence.

Beep Codes

The Basic Input/Output System (BIOS) controls the start-up configuration of the MIM. Because the MIM does not include a KEYBOARD and MONITOR, the BIOS provides features which allow the FE to:

- Listen to a sequence of beeps that provide feedback of error conditions during Power-On Self Test (POST).
- Use the LAPTOP COMPUTER to observe error messages and Power-On Self Test (POST) information.

Note

The 25 PS does not use beep codes.

Table 11–2 MIM 100 and MIM 200, 667MHz: Beep Codes during Power-On Self Test

Beeps	Malfunction and Cause	Recommended Action	Error Messages
0	SPEAKER malfunction: MIM boots.	Check the SPEAKER.	None.
	Power or CPU BOARD: MIM does not boot.	Repair the power malfunction or install a new CPU BOARD.	
1	No malfunction: The BIOS successfully completed initialization of all onboard and external devices.	None.	None.
2	CMOS: • Configuration error • Checksum error • Battery low or malfunctioned • System options not set	The boot process automatically stops. The LAPTOP COMPUTER prompts you to do the AMIBIOS Setup. Go to Section 4 and do the procedure “Configuring the BIOS and Interrupts.”	• “CMOS Settings Wrong” • “CMOS Checksum Bad” • “CMOS Battery Low” • “CMOS Settings Wrong“
3	SIMM: Failure in first 640 KB of base memory. The system does **not** have any extended memory.	The boot process automatically stops. Install a new SIMM in BANK 0, SLOT 1.	None.
4	CPU BOARD: • Refresh malfunction • Processor Exception Interrupt Error • Timer not Operational • FLOPPY DRIVE CONTROLLER	The boot process automatically stops. Install a new CPU BOARD.	• “Refresh Error“ • “None“ • “Timer Error“ • “FDC Error”
5	HARD DRIVE: • The busy signal of the HARD DRIVE CONTROLLER did **not** go low in a finite period of time. • The read/write did **not** verify. • Initialization failed • Incorrect parameters • Interrupt was expected **or** data request signal did not arrive within a finite period of time.	The boot process automatically stops. Repair the malfunction associated with the HARD DRIVE.	• “Pri. Master HDD Error“ • “Pri. Slave HDD Error“ • “Sec. Master Error“ • “Sec. Slave Error“

Beeps	Malfunction and Cause	Recommended Action	Error Messages
6	VIDEO ADAPTER BOARD: **Either** the system VIDEO ADAPTER is missing **or** the DISPLAY MEMORY had a malfunction associated with a read/write command.	The boot process automatically stops. Repair the malfunction associated with the VIDEO ADAPTER BOARD.	None.
7	FLOPPY DRIVE: • Incorrect Type • Seek failure occurred during POST.	Continue to boot from the HARD DRIVE.	"A or B: Drive Error"

Table 11–3 MIM 200, 1 GHz, Beep Codes during Power-On Self Test

Beeps	Malfunction and Cause	Recommended Action	Error Messages
Repeated long beeps	A memory error has occurred.	Check that all DIMMs are correctly installed.	None
One long beep, then 2 short beeps	A video error has occurred and the BIOS code cannot initialize the video screen to display additional information.	Check that the VIDEO ADAPTER BOARD is correctly installed.	None

Troubleshooting the MIM 100

Table 11–4 MIM 100: Troubleshooting the Power-On Sequence

Malfunction	Solution
The LED does **not** illuminate when the MIM energizes.	1. Check the AC Power: • The POWER CORD is correctly seated in an approved wall outlet • Check the continuity of the POWER CORD • The AC Power outlet is correct at the wall outlet 2. Check the continuity of the FUSES in the AC POWER SWITCH. 3. Check for 2 VDC at the LED CONNECTOR. If correct, then check **all** outputs of the POWER SUPPLY. 4. Install a new LED.
The FAN does not operate when the MIM energizes.	1. Check the POWER SUPPLY: • 12 V DC between P2-7 and P2-5 on the POWER SUPPLY • 12 V DC at the FAN CONNECTOR 2. Install a new FAN.
The KEYPAD does not display the logo for “PACS LINK” when the MIM energizes.	1. Check the KEYPAD CABLE for: • Correct seating in PORT on the BULKHEAD of the MIM • Continuity of the KEYBOARD CABLE 2. Check for the DC voltages at the POWER SUPPLY. 3. Check FUSES F2 and F4 on the RS422 SERIAL BOARD. 4. Check that the: • KEYBOARD HARNESS is correctly seated on the RELAY BD • RIBBON CABLE for the RS422 I/F is correctly seated 5. Check that 12 Volt CONNECTOR on DIGITAL or VIDEO INTERFACE BOARD is installed correctly. 6. Install a new KEYPAD. 7. Install a new SERIAL BOARD.
The SPEAKER does not make one beep tone when the MIM energizes.	1. If the SPEAKER does not beep once **or** sounds more than one beep, see Page 57. 2. Check that the SPEAKER is correctly connected to the CPU BOARD. 3. Check the POWER SUPPLY: • **All** outputs of the POWER SUPPLY are correct • CONNECTORS P2, P3 are correctly seated on the CPU BOARD 4. Re-seat the SIMMs. If necessary, install a new SIMM in BANK 0, SLOT 1. 5. Re-seat the BIOS. If necessary, install a new BIOS.
The KEYPAD does not display the “Acquisition” screen.	1. Use the LAPTOP COMPUTER to check that the “CPU Setup and Configuration” information is correct. After you exit the ROM Setup Program, the MIM automatically reboots and reloads the system. 2. Check that the settings of the SWITCH and JUMPERS are correct on the RS 422 SERIAL BOARD. 3. Check that the configuration files are correct. 4. Install the System Software and configure the MIM.

Diagnostics for the OPTICAL INTERFACE (OI) BOARDS

Important

- Executing diagnostics on either the MIM OPTICAL INTERFACE or CPOI BOARDS interrupts communication, stopping transmission of images to the LASER PRINTER. Transmission will resume when the diagnostic complete.
- Execute the diagnostic for the MIM before executing the diagnostic for the CPOI. The communication between the MIM and the CPOI must be correct before the diagnostic for the CPOI will successfully pass the test.
- Before installing a replacement CPOI, check that the following equipment operates correctly:
  - FIBER OPTIC CABLE between the MIM and the DISTRIBUTION BOARD Ay
  - FIBER OPTIC PASSTHROUGH CONNECTOR at the DISTRIBUTION BOARD Ay
  - Internal FIBER OPTIC CABLE between the DISTRIBUTION BOARD Ay and the CPOI
- The diagnostics for the CPOI include the following tests:
  - Registers and interrupts
  - Transmitters and receivers
  - Memory

Troubleshooting the CPOI

```
Enter selection -->
CES PORT TEST--------PASSED
DRAM INTEGRITY TEST-  PASSED
DRAM REFRESH TEST---  PASSED
ROM SUMCHECK TEST---  PASSED
VICO68 RESET TEST---  PASSED
NVSRAM BATTTERY TEST- PASSED
NVSRAM INTEGRITY TEST-PASSED
VICO69 INITIALIZATION PASSED

CPNI Environment Ver 1.0
 Current Date/Time ==> 5/13/1999 10:52:00
Valid Application in FLASH <GO>..copied to RAM

CPOI Application -  CkSum 003456D8   OK
CPOI NVRAM- OK
SPURIOUS INTERRUPTS DETECTED! Count=2695692801
CPOI Starting-Date and Time=>5/13/1999 9:41:34
Start CPOI command handler...Complete!
Previous CPCP node:6 entry:1..MIM issue START!
Start CPOI driver...Complete!

CPOI Ver 1.2 [Boot PROM Ver. 1.0]

    - UTILITIES MENU -
1 Get Current Date & Time

3 CPCP Buffer Address
4 CPCP Buffer Tables

6 Debug Utilities (Trace: 8000)
7 Get OI Firmware Revisions
8 Run All CPOI Diagnostic Tests
9 Set Current Date & Time

CPOI Status: IDLE
***Spurious interrupts: Total=2695692801 Current=0***

Enter selection --> 1
```

```
Current PSOS Date & Time= >5/13/1999 9:41:42
Reset PSOS to RTC Date&Time=>5/13/1999 9:41:43
```

Important

- The CPOI is a “Plug and Play” device. No configuration is necessary. The MIM downloads all setup information to the CPOI.
- The LAPTOP COMPUTER connects to the CPOI at the 25 PIN SERVICE CONNECTOR of the DISTRIBUTION BOARD AY on the back of the LASER PRINTER.
- Connection setup to the LAPTOP COMPUTER for a CP interface is a Null Serial Connection: 9600 baud, no parity, 8 data bits, 1 stop bit, and full duplex.

[1] Connect the LAPTOP COMPUTER to the CPOI.

Caution

Before you return operation of the MIM to the customer, de-energize **and** energize the LASER PRINTER. The soft boot process might result in incorrectly terminated operations in the LASER PRINTER. Use the RESET on the front of the CPOI to soft boot the CPOI without de-energizing the LASER PRINTER.

[2] Energize or reset the LASER PRINTER. See the example screen below.

Important

If the screen data does **not** match the data indicated in the example screen, Page 65.

[3] Check that the Date /Time of the CPOI and the MIM **match**:

- Select item 1 from the "Utilities Menu."
- At the DISPLAY KEYPAD of the MIM, select **Menu>Service Menu>Machine Setup> Set Date/Time.**

```
CPOI Ver 1.2 [Boot PROM Ver. 1.0]

        UTILITIES MENU
1 Get Current Date & Time

3 CPCP Buffer Address
4 CPCP Buffer Tables

6 Debug Utilities (Trace: 8000)
7 Get OI Firmware Revisions
8 Run All CPOI Diagnostic Tests
9 Set Current Date & Time

CPOI Status: IDLE
***Spurious interrupts: Total=2695692801 Current=0***

Enter selection --> 3
```

```
CPCP Buffer Tables
  -- CPCP Anchor: 0XF0000
```

Important

If the screen data does **not** match the data indicated in the example, Page 65.

[4] To determine the interface for which the CPOI is configured, select item **3**. The LAPTOP COMPUTER will display the "CPCP Anchor."

Note

- For *Kodak Ektascan* 1120 LASER PRINTER (1120 LASER PRINTER): CPCP Anchor 0XF0000
- For *Kodak Ektascan* 2180 LASER PRINTER (2180 LASER PRINTER): CPCP Anchor 0X00000

[5] To determine if the interface SLOTS and addresses are correctly assigned, select item **4** from the "Utilities Menu."

Important

See the example screen below:

- The "CPCP Buffer Table" data depends on the model of LASER PRINTER. In the "**ow nr**" column the address "00" is assigned to the LASER PRINTER:
  - 2180 LASER PRINTER: 6 addresses
  - 1120 LASER PRINTER: 4 addresses
- Maximum no. of entries in the "CPCP Buffer Table":
  - 16 addresses for the 1120 LASER PRINTER
  - 22 addresses for the 2180 LASER PRINTER
- All CP interfaces except the CPOI are assigned 2 addresses.
- The CPOI is assigned 1 address.
- The Network Interface is assigned 6 addresses.

- In the "**ownr**" column of the CPCP Buffer Table below:
  - Node Id **00**: 2180 LASER PRINTER
  - Node Id 01: CPVI
  - Node Id 06: CPOI
- Address **ABCD1234** indicates an unassigned Node.
- The TSC might request this data to resolve node conflicts on the VMEbus.

```
================================================================================================
CPCP Global Memory in 2180
================================================================================================
================================================================================================
CPCP Buffer Table Anchor
================================================================================================
Addr.    Buftbl  *  BT_Lock  Valid_Anchor    BT_Vers.
00000000 0003F980   CD000000 4B454350('KECP') 32324220('22B')
------------------------------------------------------------------------------------------------
CPCP NodeAv1[]
Node 0   Node 1   Node 2   Node 3   Node 4   Node 5    Node 6   Node 7
EA000000 EA000000 ABCD1234 ABCD1234 ABCD1234 ABCD1234  EA000000 ABCD1234
================================================================================================
CPCP Buffer Table Entries
================================================================================================
        ow in ow sn                      -----int_owner----- -----ack_sender----
  Addr.   nd us nr dr bufaddr  bytes seq  mbx_base  iv  ip  type mxb_base iv ip type
00 ------------------------------------------------------------------------------------------
0003F980  01 01 00 01 0003EE80 000F  00C8 00002000  00  00  0001 00002100 00 00 0001
01 ------------------------------------------------------------------------------------------
0003F99C  01 01 00 06 0003EF00 000F  0003 00002000  01  00  0001 00002600 00 00 0001
02 ------------------------------------------------------------------------------------------
0003F9B8  01 00 00 FF 0003EF80 0000  0000 00002000  02  00  0001 4350444C 43 50 444C
03 ------------------------------------------------------------------------------------------
0003F9D4  01 00 00 FF 0003F000 0000  0000 00002000  03  00  0001 4350444C 43 50 444C
04 ------------------------------------------------------------------------------------------
0003F9F0  01 00 00 FF 0003F080 0000  0000 00002000  04  00  0001 4350444C 43 50 444C
05 ------------------------------------------------------------------------------------------
0003F99C  01 00 00 FF 0003F100 0000  0000 00002000  05  00  0001 4350444C 43 50 444C
06 ------------------------------------------------------------------------------------------
0003F99C  01 01 01 00 0003F180 000F  00CB 00002100  00  00  0001 00002000 00 00 0001
07 ------------------------------------------------------------------------------------------
0003F99C  01 00 01 FF 0003F200 0000  0000 00002100  01  00  0001 4350444C 43 50 444C
08 ------------------------------------------------------------------------------------------
0003F99C  01 01 06 00 0003F280 000F  0005 00002600  00  00  0001 00002000 00 00 0001
```

```
CPOI Ver 1.2 [Boot PROM Ver. 1.0]

        UTILITIES MENU
1 Get Current Date & Time

3 CPCP Buffer Address
4 CPCP Buffer Tables

6 Debug Utilities (Trace: 8000)
7 Get OI Firmware Revisions
8 Run All CPOI Diagnostic Tests
9 Set Current Date & Time

CPOI Status: IDLE
***Spurious interrupts: Total=2695692801 Current=0***

Enter selection --> 7
```

```
CPOI Test -Get OI Revisions-4/29/1999 10:53:48
 CPOI SEND_BOOTCODE_REVISION requests
  CPOI Boot Code Rev: 1.0.4
  MIMOI Boot Code Rev: 1.0.4

 CPOI SEND_APPCODE_REVISION requests
  CPOI App Code Rev: 1.0.4
  MIMOI App Code Rev: 1.0.4
```

Important

The Debug Utilities are password protected and for use in program debugging only. To execute item **6** “Debug Utilities” you must call the TSC for the password and instructions.

[6] To determine the “MIM IO firmware version,” select item **7**. The version **must** match the version displayed in “Checking Service Tracking” on Page 6–2.

```
CPOI Ver 1.2 [Boot PROM Ver. 1.0]

        UTILITIES MENU
1 Get Current Date & Time

3 CPCP Buffer Address
4 CPCP Buffer Tables

6 Debug Utilities (Trace: 8000)
7 Get OI Firmware Revisions
8 Run All CPOI Diagnostic Tests
9 Set Current Date & Time

CPOI Status: IDLE
***Spurious interrupts: Total=2695692801 Current=0***

Enter selection --> 8
```

```
CPOI Diagnostic-Run All Tests-4/29/1999 10:53:
 CPOI RUN_DIAGNOSTIC request

  CPOI Diag. Result command:X10001
     - Tests run: 23
     - All tests passed: - 4/29/1999 10:54:11
```

[7] To execute the "CPOI and MIM OI onboard diagnostics," select item **8**.

Caution

Before returning operation of the MIM to the customer, de-energize **and** energize the LASER PRINTER. The soft boot process might result in incorrectly terminated operations in the LASER PRINTER. Use the RESET on the front of the CPOI to soft boot the CPOI without de-energizing the LASER PRINTER.

[8] After executing the diagnostics, de-energize and energize the LASER PRINTER.

[9] Return operation of the MIM to the customer.

Table 11–5 Troubleshooting the CPOI

Indication	Action
One or more of the 8 boot-up tests fails.	Reseat the DAUGHTER BOARD of the CPOI and reboot. If necessary, install a new CPOI.
"ChSum" not OK.	
CPCP node does **not** match node configured in Page 6-11.	Execute item **3** in the "Utilities Menu." If the "Anchor" is incorrect, **see** the indication below.
"Date/Time" of the CPOI and the Print Server do **not** match.	Execute item **8** in the "Utilities Menu." Do not execute item 9 unless the TSC instructs you.
Version < "CPOI Ver 1.2"	The version must be Š 1.2. Install Mod 1.
"Spurious interrupts" counts are display for your information	Mod 49 must be installed for the 2180 LASER PRINTER. To reset to zero execute [Ctrl] **kill**.
Incorrect "Anchor"	Configure the Destination: See Page 6–12. If the "Anchor" remains incorrect, execute item *8* in the "Utilities Menu." If the diagnostic does **not** indicate a malfunction of the MIM OI and the FIBER OPTIC CABLE, then check that the other CP interfaces on the VMEbus operate correctly. If necessary, install a new CPOI.
The data in the "CPCP Buffer Table" does **not** match the hardware installed.	Select item **8** in the "Utilities Menu" to execute the "CPOI and MIM onboard diagnostics." See Page Page 11–60. Check that the configuration of all interfaces is correct, including Node ID. Troubleshoot hardware on the VMEbus of the LASER PRINTER.
The MIM OI firmware version does **not** match the version displayed in "Service Tracking Information."	

Calling for Support

Be prepared to provide the following information when calling for support to solve a service problem:

- Model Number: MIM 200, MIM 100 or 25 PS
- K- Number:
  - For MIM 200 and MIM 100: Located on decal on right side of MIM.
  - For 25 PS: Located on decal on left front of machine.
- Serial Number:
  - For MIM 200 and MIM 100: Located on decal on back of MIM
  - For 25 PS: Located on decal on bottom of machine.

Section 12: Illustrated Parts List

Introduction

This section includes illustrated parts lists of the hardware components for the following MIMs:

- *Kodak* PACS LINK MEDICAL IMAGING MANAGER 200 (MIM 200) - 1 GHz
- Kodak PACS LINK MEDICAL IMAGING MANAGER 200 (MIM 200) - 1.2 GHz
- *Kodak* PACS LINK MEDICAL IMAGING MANAGER 200 (MIM 200) - 2.4 GHz
- *Kodak* PACS LINK MEDICAL IMAGING MANAGER 100 (MIM 100) - 1.2 GHz
- *Kodak* PACS LINK 25 PRINT SERVER (25 PS)

The parts lists include all new BOARDS and CABLES necessary for use of V_6.1 and higher.

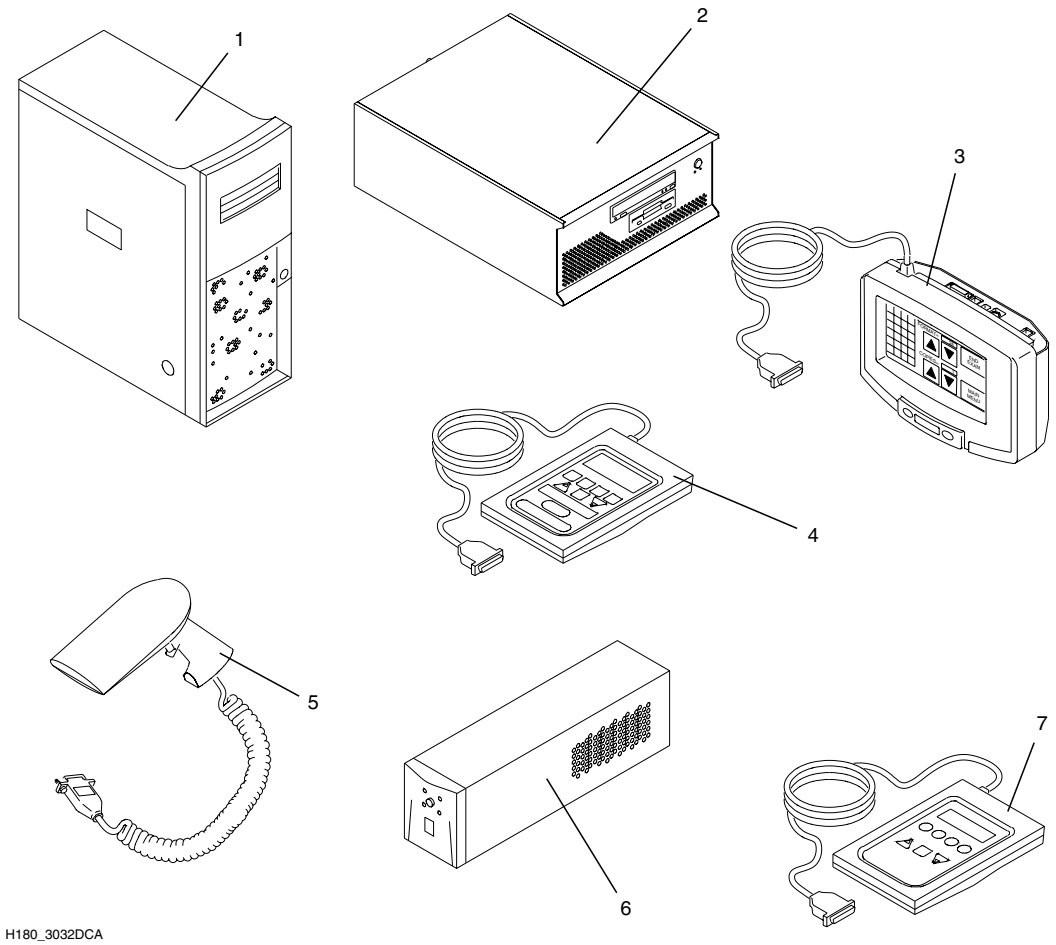
For parts information for the following MIM versions, see the ILLUSTRATED PARTS LIST 8B8186.

- *Kodak* PACS LINK MEDICAL IMAGING MANAGER 200 (MIM 200) - 667 MHz.
- *Kodak* PACS LINK MEDICAL IMAGING MANAGER 100 (MIM 100) - 433 MHz

Illustrated Parts Breakdown

- Figure 12-1. MIM 200, 1 GHz - FRAME AY - External
- Figure 12-2. MIM 200, 2.4 GHz - BOARDS
- Figure 12-3. MIM 200, 1 GHz - BOARDS
- Figure 12-4. 25 PS - FRAME AY - External
- Figure 12-5. 25 PS - BOARDS and CABLES
- Figure 12-6. MODEM BOARD - MIM 200 and 25 PS
- Figure 12-7. SERIAL INTERFACE BOARD - MIM 200
- Figure 12-8. DIGITAL INTERFACE BOARD - MIM 200
- Figure 12-9. VIDEO 150LC INTERFACE BOARD and CABLES - MIM 200
- Figure 12-10. NETWORK ISOLATION BOARD - MIM 200
- Figure 12-11. *Ethernet* BOARDS and CABLES - MIM 200 and 25 PS
- Figure 12-12. COPPER OUTPUT (COPCIL) BOARD and CABLES - MIM 200 and 25 PS
- Figure 12-13. FIBER OPTIC OUTPUT (FOPCIL) BOARD and CABLES - MIM 200 and 25 PS
- Figure 12-14. OPTICAL INTERFACE BOARD and CABLES - MIM 200
- Figure 12-15. KEYPAD INTERFACE BOARD - 25 PS
- Figure 12-16. *Ethernet* ADAPTERS and CROSSOVER CABLES

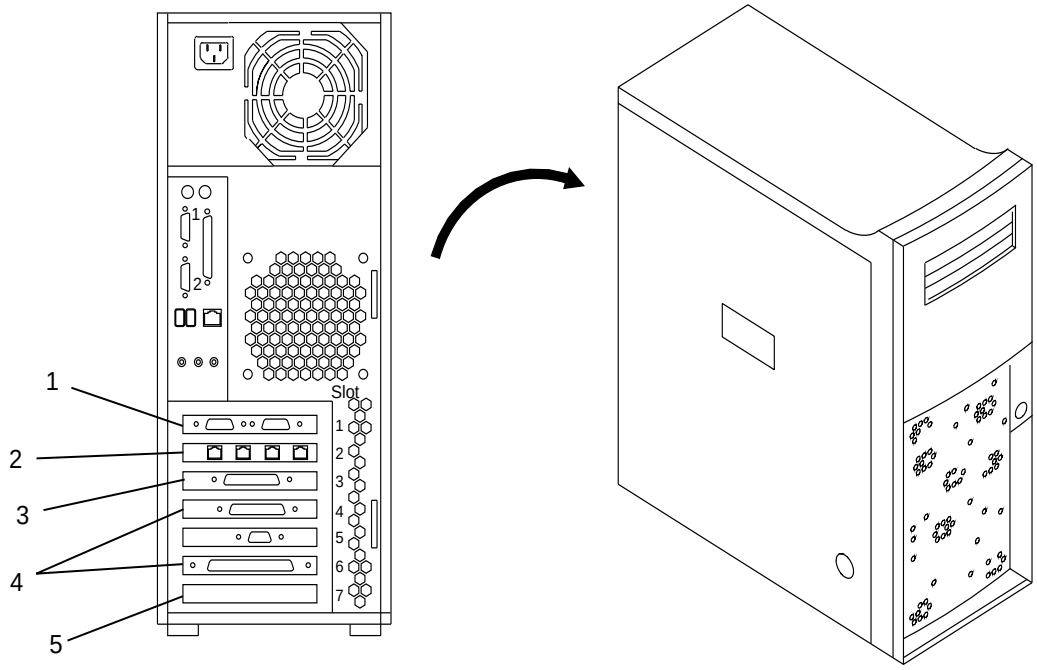
Figure 12–1 MIM 200, 1 GHz, 1.2 GHz, and 2.4 GHz- FRAME AY - External



Item	Part No.	Description	Notes
1	4E8506	PC AUR/ENCLOSURE AY 1 GHz	Includes HARD DRIVE, CD-ROM DRIVE, CPU BOARD, and VGA BOARD. For BOARDS added to PC CHASSIS, see Figure 12–3.
	SP8E7078	PC AUR/ENCLOSURE AY 2.4 GHz	Includes HARD DRIVE, CD-ROM DRIVE, CPU BOARD, and VGA BOARD. For BOARDS added to PC CHASSIS, see Figure 12–2.
2		PC AUR/ENCLOSURE AY 1.2 GHz	
2	3E0840	KEYPAD - touchscreen	Shipped with the latest FIRMWARE. For proper operation, must be loaded with correct level of firmware. See Section 2 for procedure.
3	SP3E1621	KEYPAD - print	
4	SP3E1622	KEYPAD - display	

Item	Part No.	Description	Notes
5	SP7E8011	UNINTERRUPTIBLE POWER SUPPLY (UPS) - 120 V	For U.S. and Canada.
	4E8357	UNINTERRUPTIBLE POWER SUPPLY (UPS) - 230 V	For international use.
6	SP4E9772	BAR CODE READER	
7	4E8061	External Modem	Includes: • POWER ADAPTER - not illustrated • TELEPHONE CORD - not illustrated • SERIAL CABLE - not illustrated

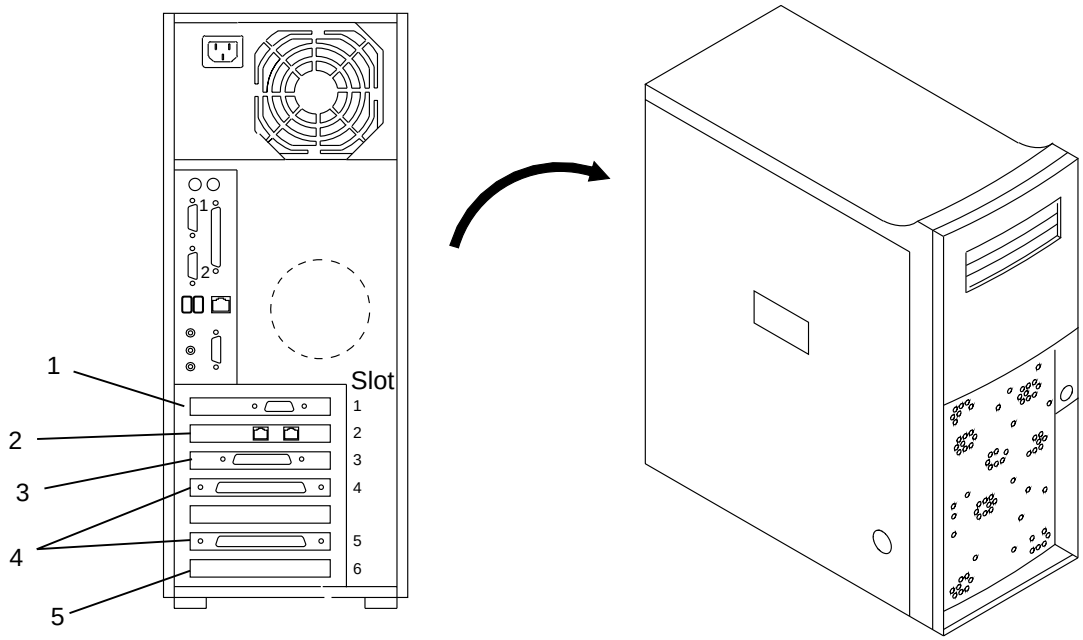
Figure 12–2 MIM 200, 2.4 GHz - BOARDS



180_0115HCA
180_0115HC

Item	Part No.	Description	Notes
1	SP3H9609	CABLE - COM 10, COM 11 Internal	Used in all MIM 200s.
2	6E7866	BOARD - MODEM, 3 com, 56K, PCI	Used in MIM 200s manufactured with software earlier than V_6.0. See Figure 12–8.
	SP6E5193	BOARD - network isolation	See Figure 12–12. Required in EEC countries.
3	5E2762	BOARD - RS422 serial interface, 8 channel, V_1	Used in all MIM 200s. See Figure 12–9.
4	5E2119	BOARD - digital interface, 8 mb, V_2.2	MODALITY SERVERS only. See Figures 12–10 and 12–11. The BOARDS can be used in any combination, installed in slots 4 and 5.
	SP4E9916	BOARD - video 150LC interface	
	4E5524	BOARD - single channel video 60 interface	
5	3E2429	BOARD - *Ethernet*, 10/100baseT, Secondary	PRINT SERVERS only. See Figure 12–13. 3E2429 replaces 3H8075.
	SP6E7386	BOARD - COPCIL	PRINT SERVERS only. See Figure 12–14.
	SP74040182136	BOARD - FOPCIL	PRINT SERVERS only. See Figure 12–15.
	2E4017	BOARD - optical interface, CPOI	PRINT SERVERS only. See Figure 12–16.

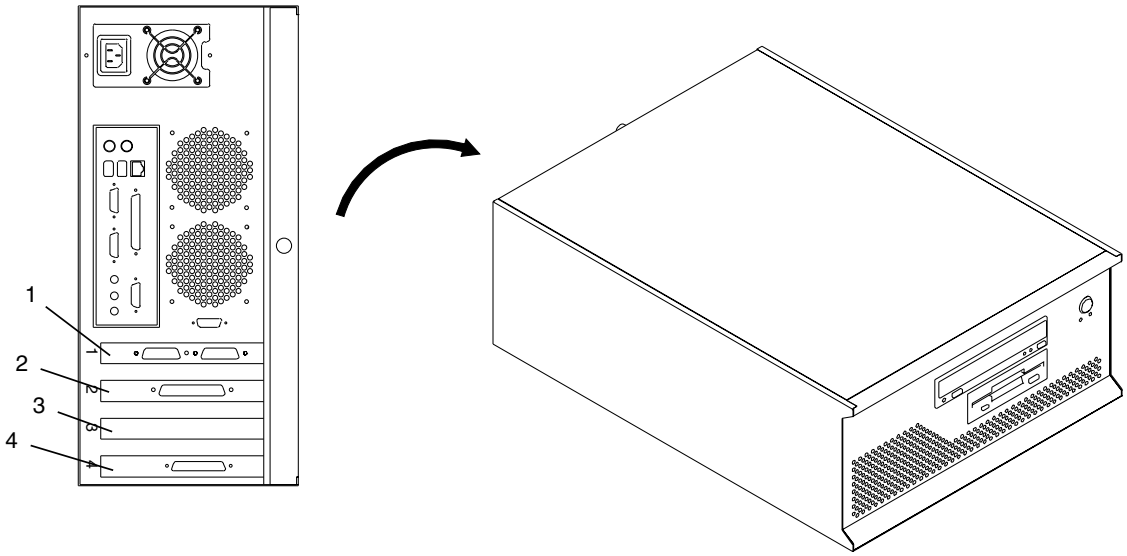
Figure 12–3 MIM 200, 1 GHz - BOARDS



H180_0098HCA
H180_0098HC

Item	Part No.	Description	Notes
1	No Number	BOARD - video adapter	Covered by plate. Used in all MIM 200s. Not stocked.
2	6E7866	BOARD - MODEM, 3 com, 56K, PCI	Used in MIM 200s manufactured with software earlier than V_6.0. See Figure 12–8.
	SP6E5193	BOARD - network isolation	See Figure 12–12. Required in EEC countries.
3	5E2762	BOARD - RS422 serial interface, 8 channel, V_1	Used in all MIM 200s. See Figure 12–9.
4	5E2119	BOARD - digital interface, 8 mb, V_2.2	MODALITY SERVERS only. See Figures 12–10 and 12–11. The BOARDS can be used in any combination, installed in slots 4 and 5.
	SP4E9916	BOARD - video 150LC interface	
	4E5524	BOARD - single channel video 60 interface	
5	3E2429	BOARD - *Ethernet*, 10/100baseT, Secondary	PRINT SERVERS only. See Figure 12–13. 3E2429 replaces 3H8075.
	SP6E7386	BOARD - COPCIL	PRINT SERVERS only. See Figure 12–14.
	SP74040182136	BOARD - FOPCIL	PRINT SERVERS only. See Figure 12–15.
	2E4017	BOARD - optical interface, CPOI	PRINT SERVERS only. See Figure 12–16.

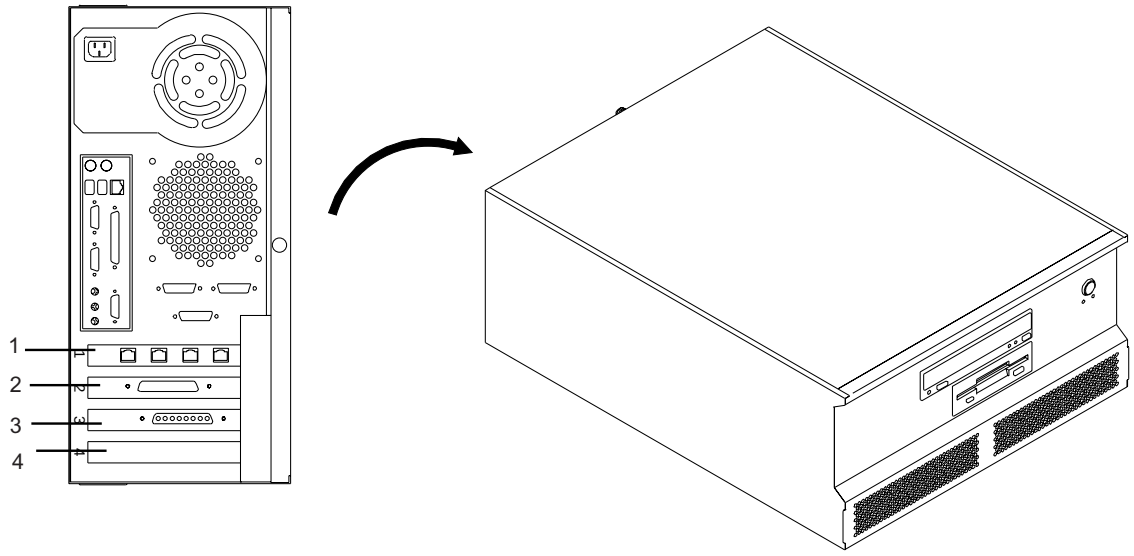
Figure 12–4 MIM 200, 1.2 GHz - BOARDS



H180_3033HCA
H180_3033HC

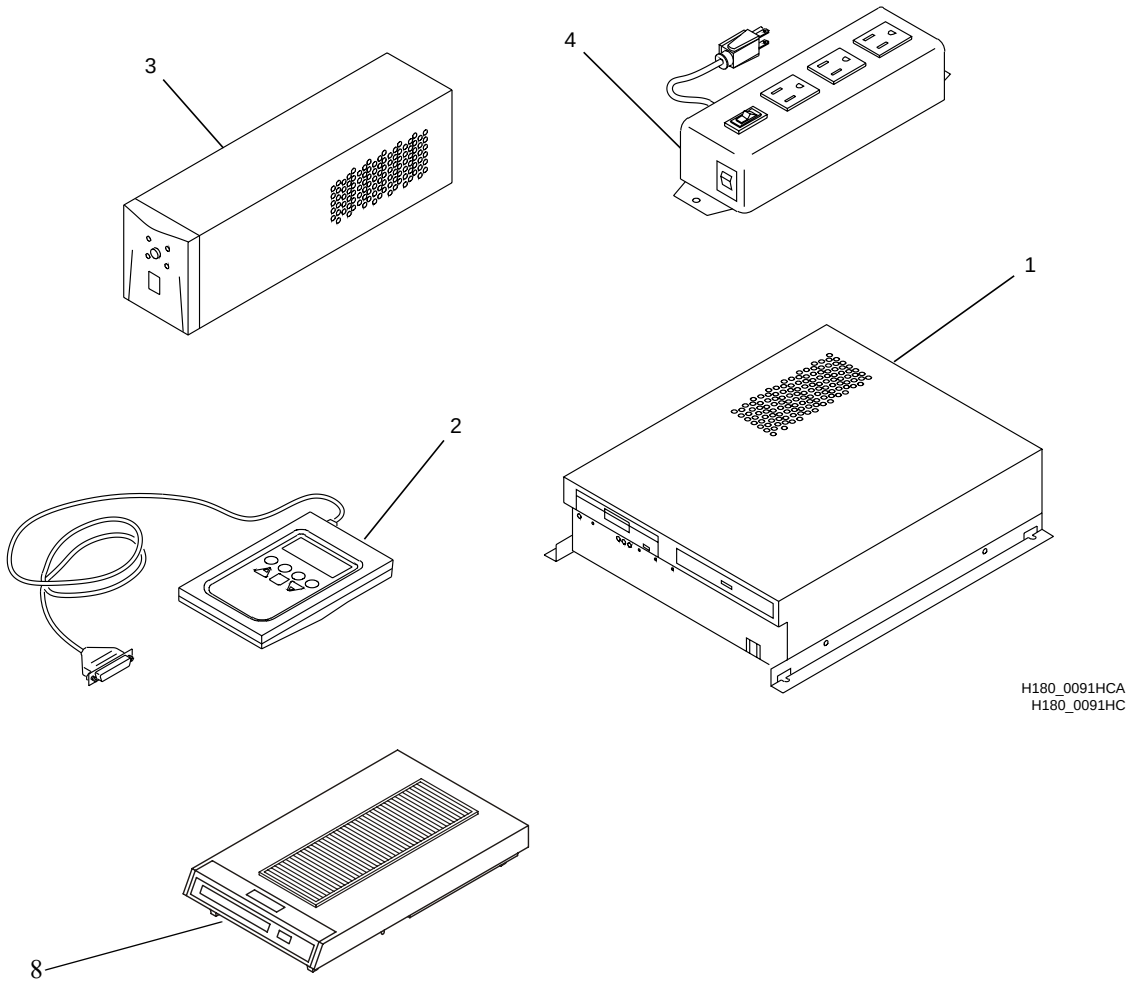
Item	Part No.	Description	Notes
1		BRACKET - 422	???
2	5E2762	BOARD - RS422 serial interface, 8 channel, V_1	Used in all MIM 200s. See Figure 12–9.
3	5E2119	BOARD - digital interface, 8 mb, V_2.2	MODALITY SERVERS only. See Figures 12–10 and 12–11. The BOARDS can be used in any combination, installed in slots 3 and 4.
	SP4E9916	BOARD - video 150LC interface	
	4E5524	BOARD - single channel video 60 interface	
4	3E2429	BOARD - *Ethernet*, 10/100baseT, Secondary	PRINT SERVERS only. See Figure 12–13. 3E2429 replaces 3H8075.
	SP6E7386	BOARD - COPCIL	PRINT SERVERS only. See Figure 12–14.
	SP74040182136	BOARD - FOPCIL	PRINT SERVERS only. See Figure 12–15.
	2E4017	BOARD - optical interface, CPOI	PRINT SERVERS only. See Figure 12–16.

Figure 12–5 MIM 100, 1.2 GHz - BOARDS



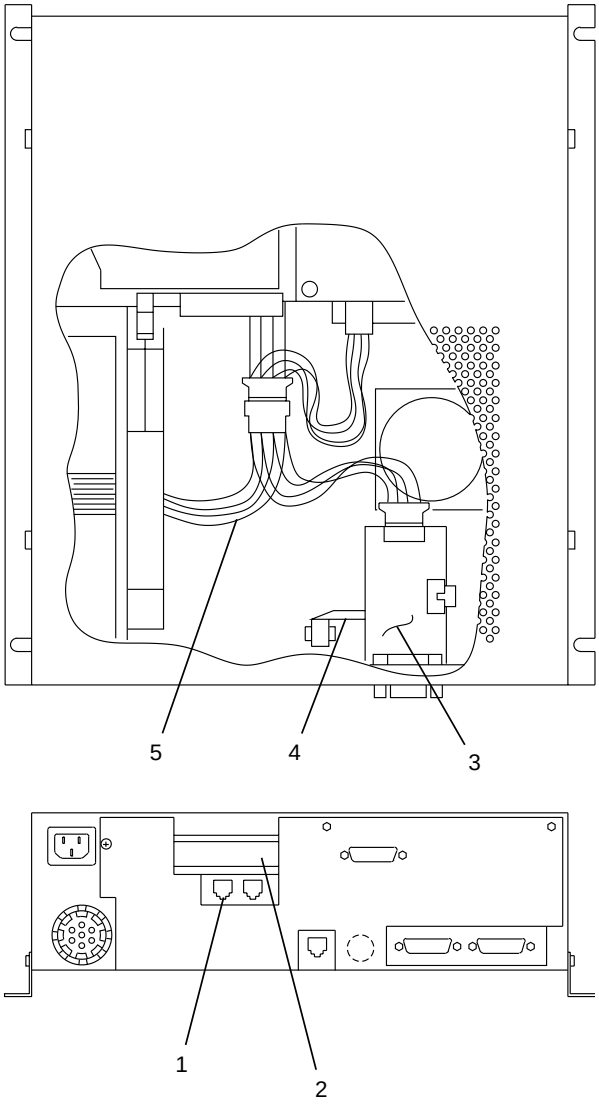
Item	Part No.	Description	Notes
1	SP6E5193	BOARD - network isolation	See Figure 12–12. Required in EEC countries.
2	5E2762	BOARD - RS422 serial interface, 8 channel, V_1	Used in all MIM 200s. See Figure 12–9.
3 or 4	5E2119	BOARD - digital interface, 8 mb, V_2.2	MODALITY SERVERS only. See Figures 12–10 and 12–11. The BOARDS can be used in any combination, installed in slots 3 and 4.
	SP4E9916	BOARD - video 150LC interface	
	4E5524	BOARD - single channel video 60 interface	

Figure 12–6 25 PS - FRAME AY - External



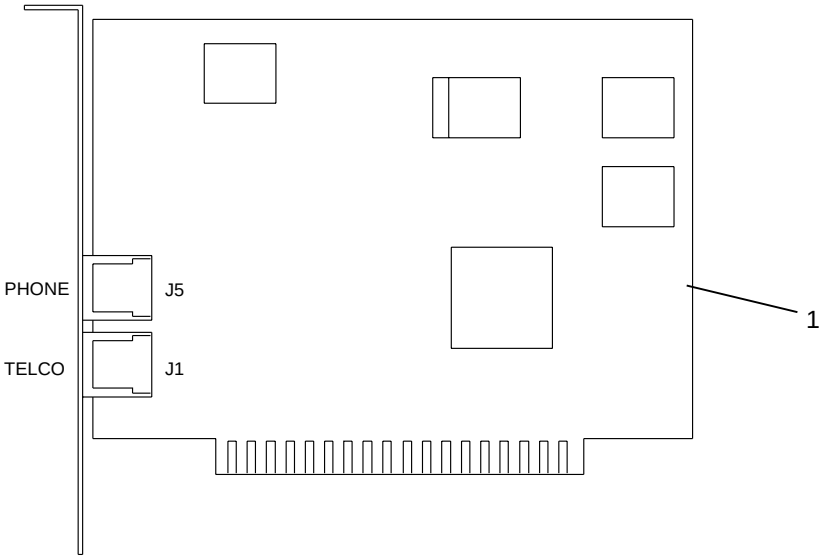
Item	Part No.	Description	Notes
1	SP8E2908	*Kodak* PACS LINK 25 PRINT SERVER, FRU for U.S. and International	Includes HARD DRIVE with pre-loaded software. Does not include INTERNAL MODEM or OUTPUT BOARD. See Figure 12–7.
2	SP3E1622	KEYPAD - display	
3	5E5800	UNINTERRUPTIBLE POWER SUPPLY (UPS) - 120 V	For U.S. and Canada.
	7E7814	UNINTERRUPTIBLE POWER SUPPLY (UPS) - 230 V	For international use.
4	7E2998	POWER STRIP KIT	For mobile applications.
5	6E7293	UPS HOLDOWN KIT	Not illustrated. For mobile applications.
6	26-1011-5783-7	FASTENERS - Anchor, self-tapping	Not illustrated. Used to fasten MIM to wall. (Supplied in bag.)
7	42-0007-5371-7	CABLE - *Ethernet*, 7 ft	Not illustrated.
8	4E8061	External Modem	Includes: • POWER ADAPTER - not illustrated • TELEPHONE CORD - not illustrated • SERIAL CABLE - not illustrated

Figure 12–7 25 PS - BOARDS and CABLES



Item	Part No.	Description	Notes
1	6E7866	BOARD - MODEM	See Figure 12–8. Used in 25 PS units manufactured with MIM software earlier than V_6.0.
2	3E2429	BOARD - *Ethernet*, 10/100baseT	See Figure 12–13.
	SP6E7386	BOARD - COPCIL	See Figure 12–14.
	SP74040182136	BOARD - FOPCIL	See Figure 12–15.
3	8E2262	BOARD - KEYPAD interface	See Figure 12–17.
4	7E7760	CABLE - ribbon	
5	7E7759	CABLE - power, split	
6	5E5554	MEMORY STICK - 128 MB PKD	Not illustrated.

Figure 12–8 MODEM BOARD - MIM 200 and 25 PS



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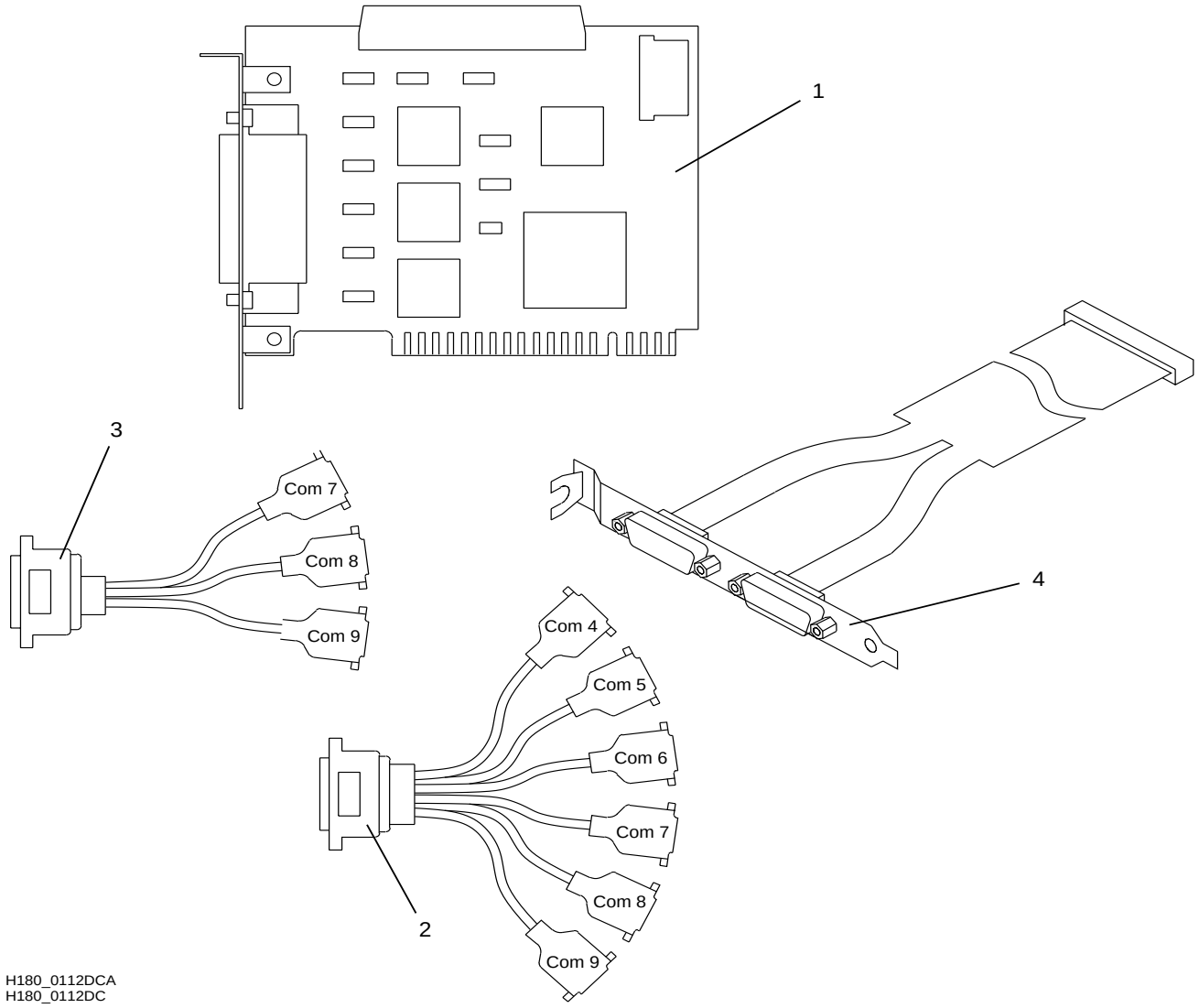
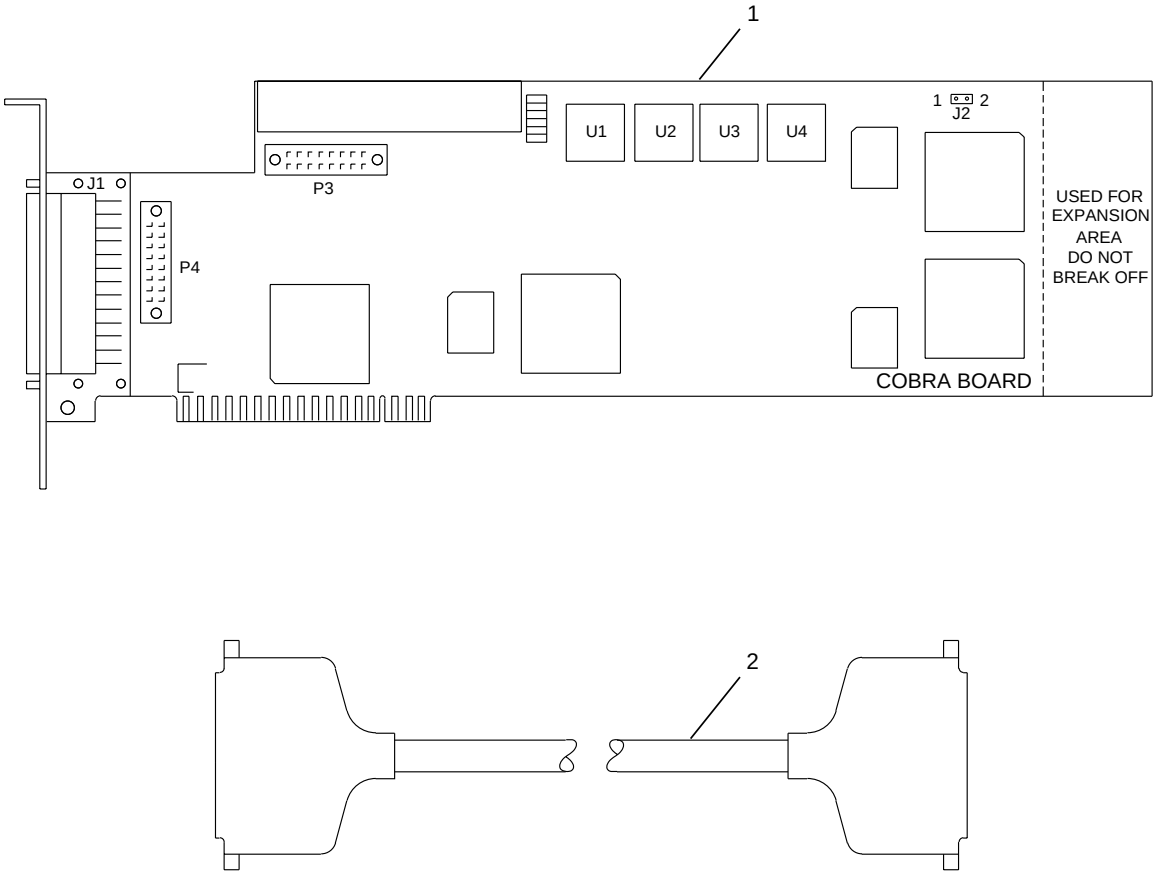
Item	Part No.	Description	Notes
1	6E7866	BOARD - MODEM, 3 Com, 56K, PCI	

Figure 12–9 SERIAL INTERFACE BOARD - MIM 200



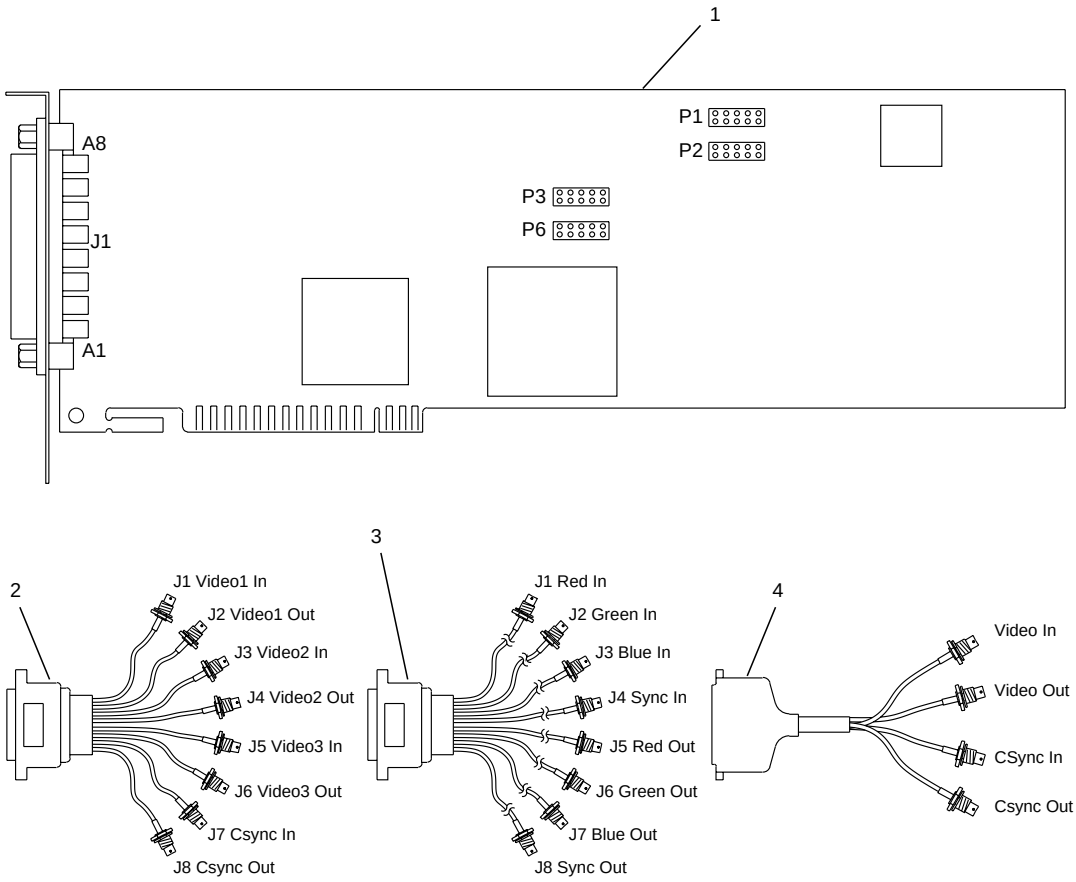
Item	Part No.	Description	Notes
1	5E2762	BOARD - RS422 serial interface, 8 channel, V1_1	
2	5E2726	CABLE - RS422, 6 PORT, external	
3	SP1F5038	CABLE - RS422, 3 PORT, external	Used in MIM 200, 2.4 GHz
4	SP3H9609	CABLE - COM 10, COM 11, internal	Used in MIM 200, 2.4 GHz
5	7E6267	FUSE	Not illustrated.

Figure 12–10 DIGITAL INTERFACE BOARD and CABLES - MIM 200



Item	Part No.	Description	Notes
1	5E2199	BOARD - digital interface, 8 MB, V_2.2	
2	3E0675	CABLE ADAPTER- RS485, 6 port, 1 m (39.4 in.)	

Figure 12–11 VIDEO 150LC INTERFACE BOARD - MIM 200



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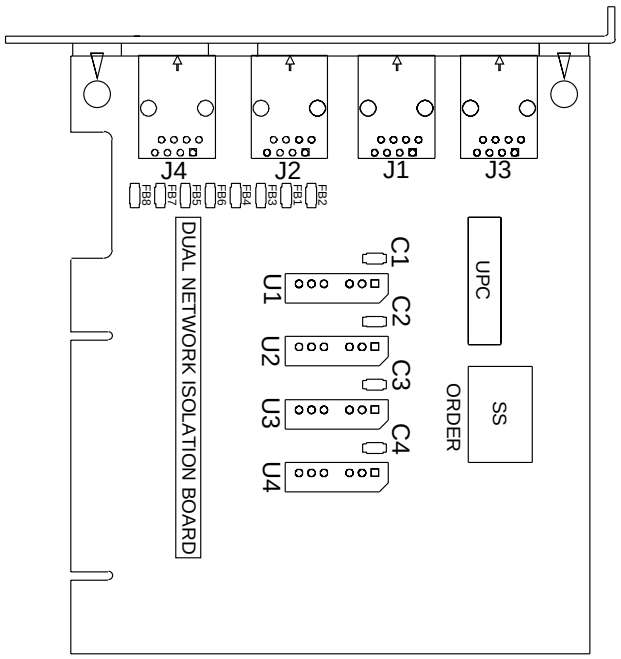
Item	Part No.	Description	Notes
1	4E9916	BOARD - video 150LC interface	
2	3H8796	CABLE - s60, 3 channel, B/W video	
3	3E0685	CABLE - color video, 20 ft	
4	3H8797	CABLE - B/W video adapter, 8 in.	

Figure 12–12 NETWORK ISOLATION BOARD - MIM 200



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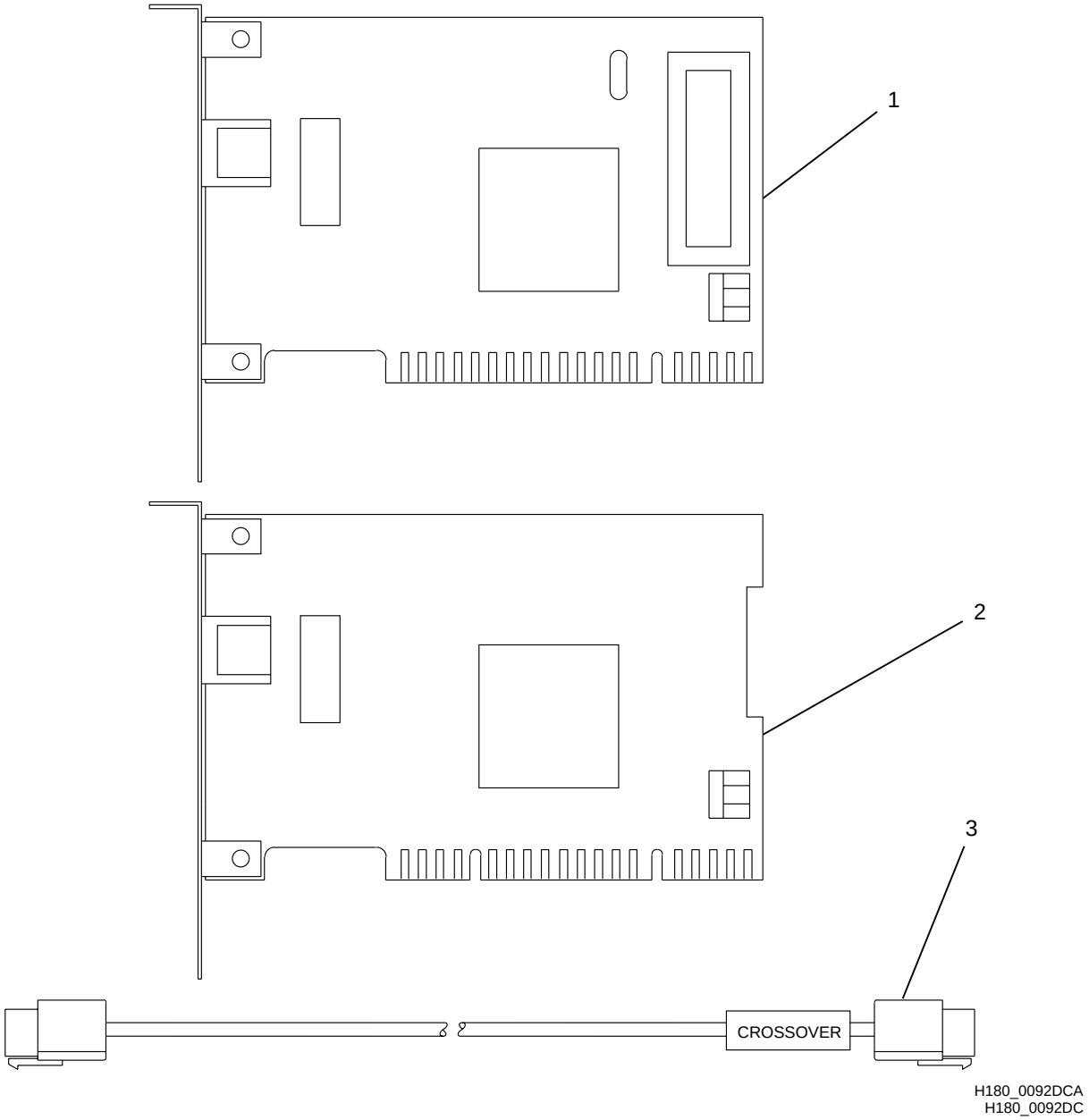
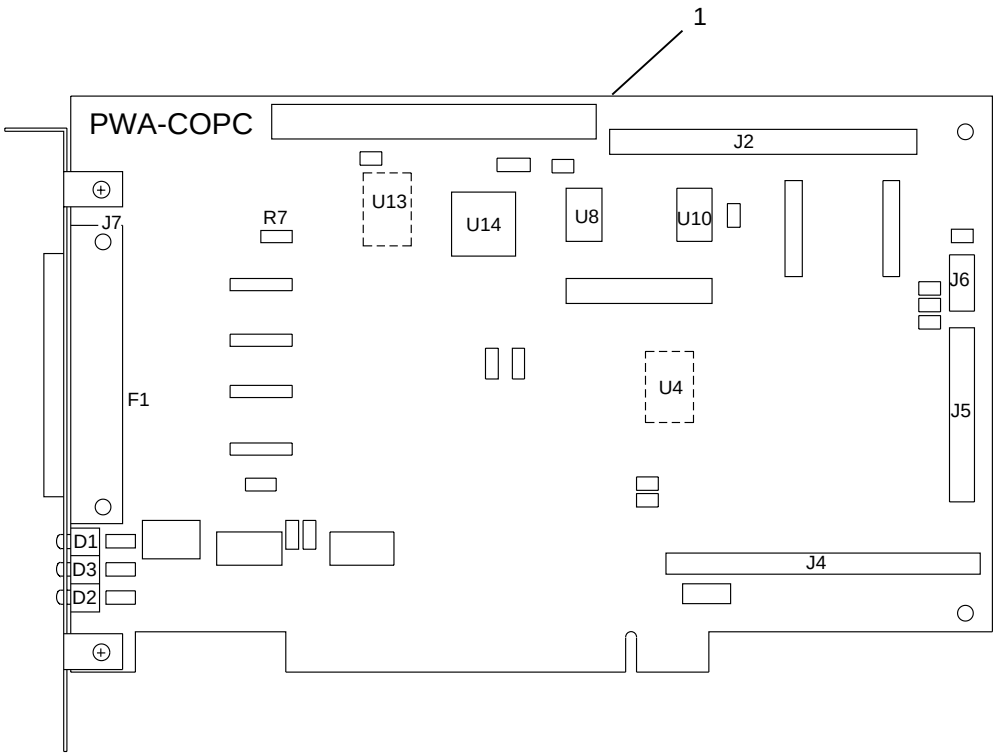
Item	Part No.	Description	Notes
1	SP6E5193	BOARD - network isolation	
2	SP5E2914	CABLE - network isolation	Not illustrated.

Figure 12–13 *Ethernet* BOARDS and CABLES - MIM 200 and 25 PS



Item	Part No.	Description	Notes
1	3H8075	BOARD - *Ethernet* 10/100baseT	For MIM 200. Being replaced by Item 2.
2	3E2429	BOARD - *Ethernet* 10/100baseT	For PACS LINK 25 and MIM 200.
3	8E2249	CABLE - *Ethernet* Crossover, 3 m	Furnished with PACS LINK 25.
		CABLE - *Ethernet* Crossover, 10 m	Not furnished with MIM. Available for order.
	3E1581	CABLE - *Ethernet* Crossover	For MIM 200 (to KELI 160).

Figure 12–14 COPPER OUTPUT (COPCIL) BOARD and CABLES - MIM 200 and 25 PS



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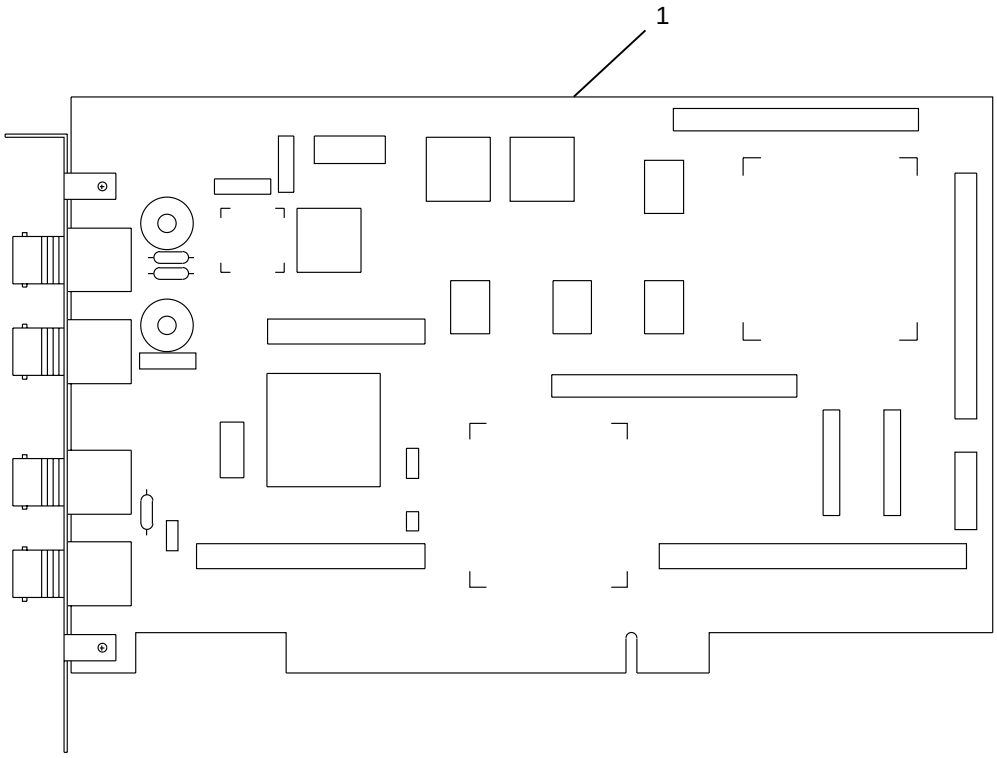
Item	Part No.	Description	Notes
1	SP6E7386	BOARD - COPCIL	
2	74-0500-5864-8	CABLE - COPCIL, Long	Not illustrated. For connection to 8500/8700 IMAGERS.
	74-0401-9054-3	CABLE - COPCIL, Short	Not illustrated. For connection to 8100 IMAGER.

Figure 12–15 FIBER OPTIC OUTPUT (FOPCIL) BOARD and CABLES - MIM 200 and 25 PS



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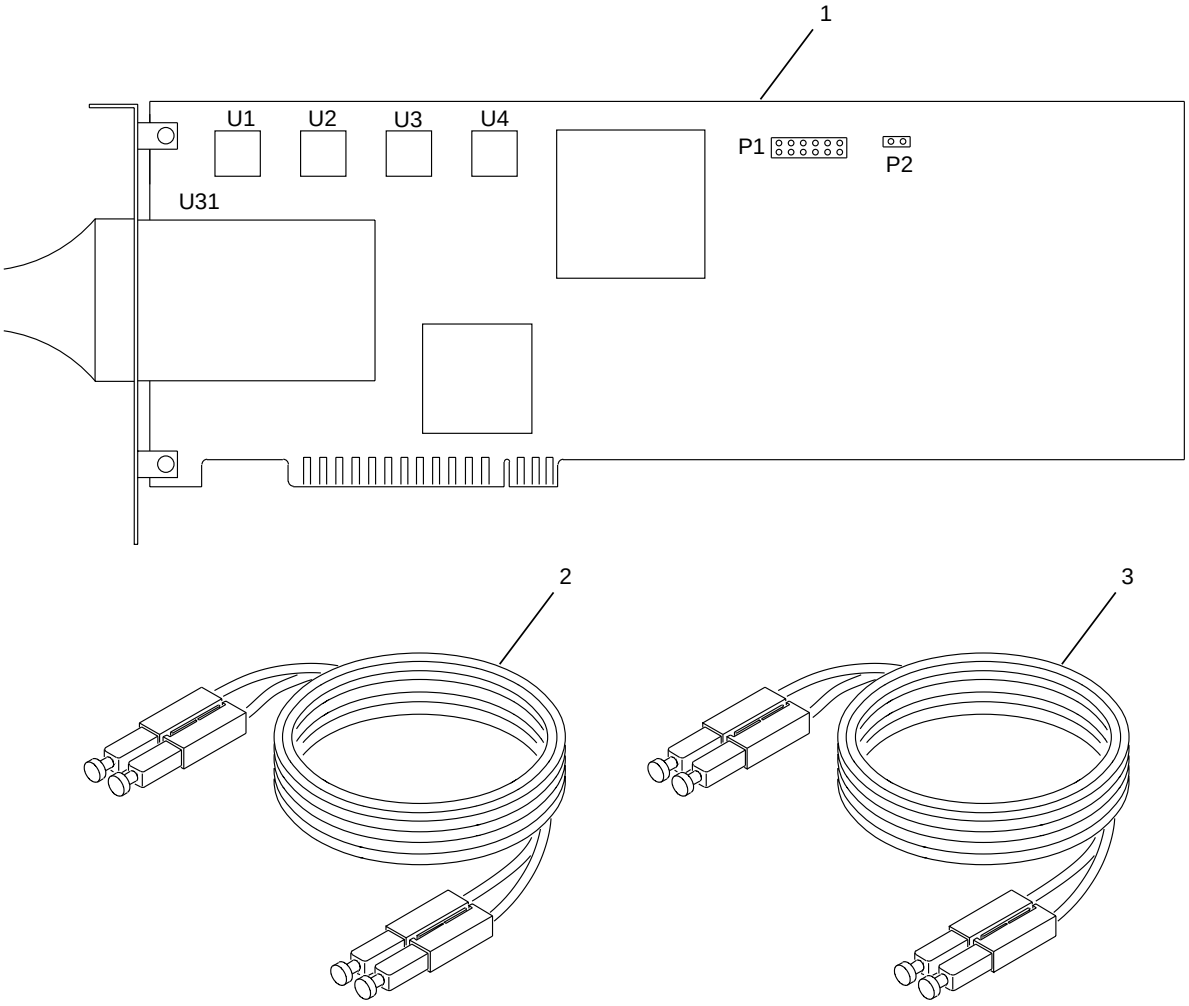
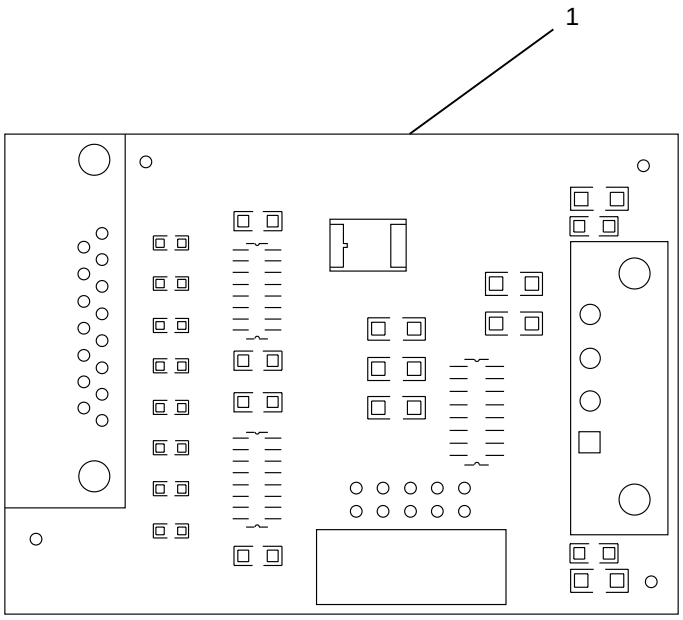
Item	Part No.	Description	Notes
1	74-0401-8213-6	BOARD - FOPCIL	
2	78-8075-2605-3	CABLE - fiber optic, 3 m	Not illustrated. Furnished with system.
3	78-8063-3684-4	CABLE - fiber optic, 10 m	Not illustrated. Available for order.
4	78-8063-3685-1	CABLE - fiber optic, 30 m	Not illustrated. Available for order.
5	78-8063-3686-9	CABLE - fiber optic, 60 m	Not illustrated. Available for order.

Figure 12–16 OPTICAL INTERFACE BOARD and CABLES - MIM 200



Item	Part No.	Description	Notes
1	2E4017	BOARD - optical interface	
2	3E0628	CABLE - fiber optic, 2 m	
3	2E4018	CABLE - fiber optic, 8 m	

Figure 12–17 KEYPAD INTERFACE BOARD - 25 PS



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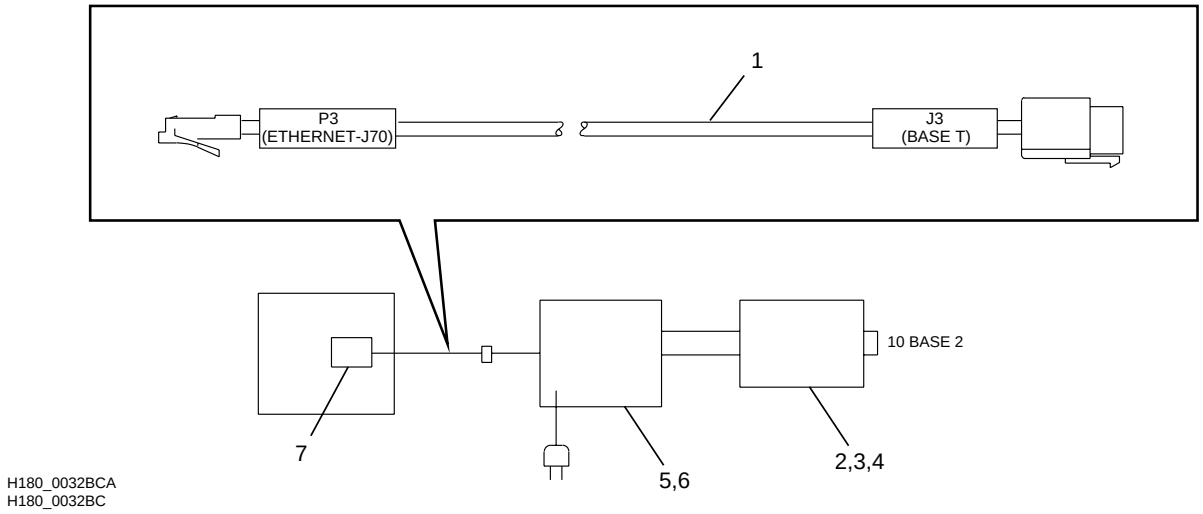
H180_0097HC

Item	Part No.	Description	Notes
1	8E2262	BOARD - KEYPAD, interface	

Figure 12–18 *Ethernet* ADAPTERS and CROSSOVER CABLES



Item	Part No.	Description	Notes
1	6C6068	CABLE - TP, crossover, 2ft	
2	1C9382	TRANSCEIVER - AUI/Thicknet	
3	968381	TRANSCEIVER - AUI/Thinnet	
4	4B8646	TRANSCEIVER - AUI/Fiber	
5	6C6006	CONVERTER - TP	Twisted Pair
6	6C6007	CONVERTER - TP	Twisted Pair

MIM 100 and MIM 200 1.2 GHz Field Replaceable Parts

The MIM 100 and MIM 200 1.2 GHz enclosures with software V_6.1 and higher include some field replaceable parts. The following table gives the part numbers for the items, and Figure 12–19 and Figure 12–20 show their location.

Table 11–1 Field Replaceable Parts, MIM 100 and MIM 200 1.2 GHz

Part Number	Item
7E9757	POWER SUPPLY 100
7E9764	POWER SUPPLY 200
7E9759	MOTHERBOARD
7E9758	CPU
7E9763	CPU FAN
7E9761	RAM
7E9756	CD ROM DRIVE
7E9781	HARD DISK DRIVE
7E9760	FLOPPY DRIVE
7E9783	EXHAUST FAN MIM 200

Part Number	Item
7E9782	EXHAUST FAN MIM 100
1F8688	POWER SWITCH
7E9784	RUBBER FEET (not shown)

Figure 12–19 Location of Field Serviceable Parts, MIM 100 1.2 GHz

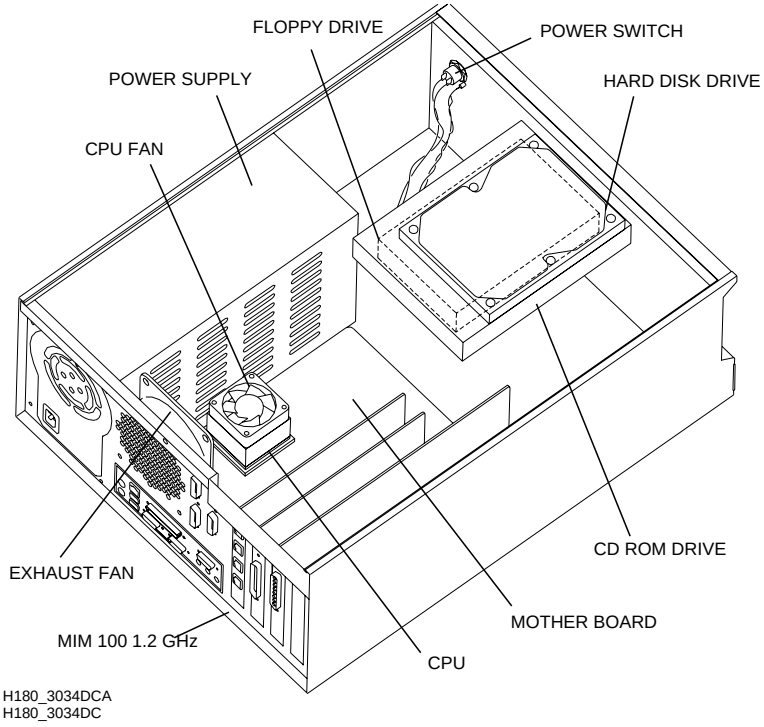
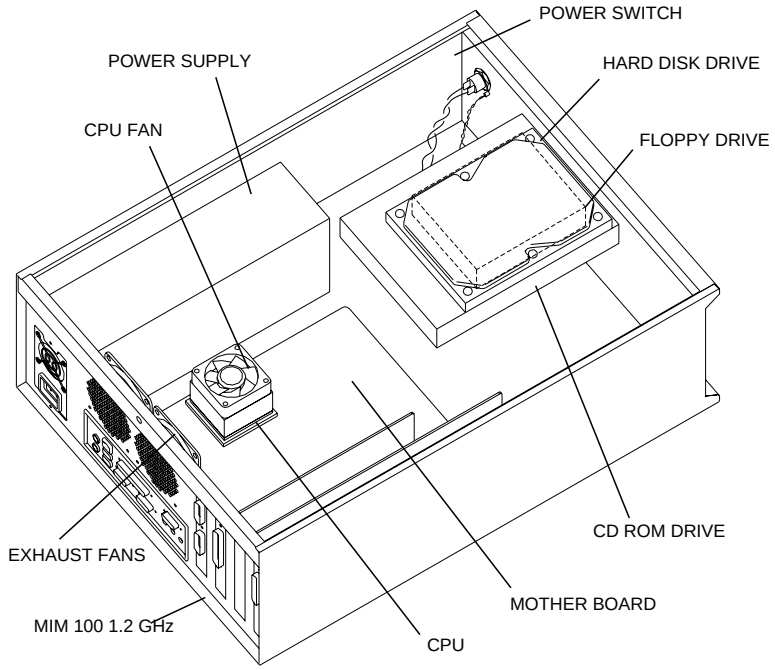


Figure 12–20 Location of Field Serviceable Parts, MIM 200 1.2 GHz



Section 13: Additional Information

Setting Up the *Mitra* PACS BROKER to Send Event Notifications to the MIM

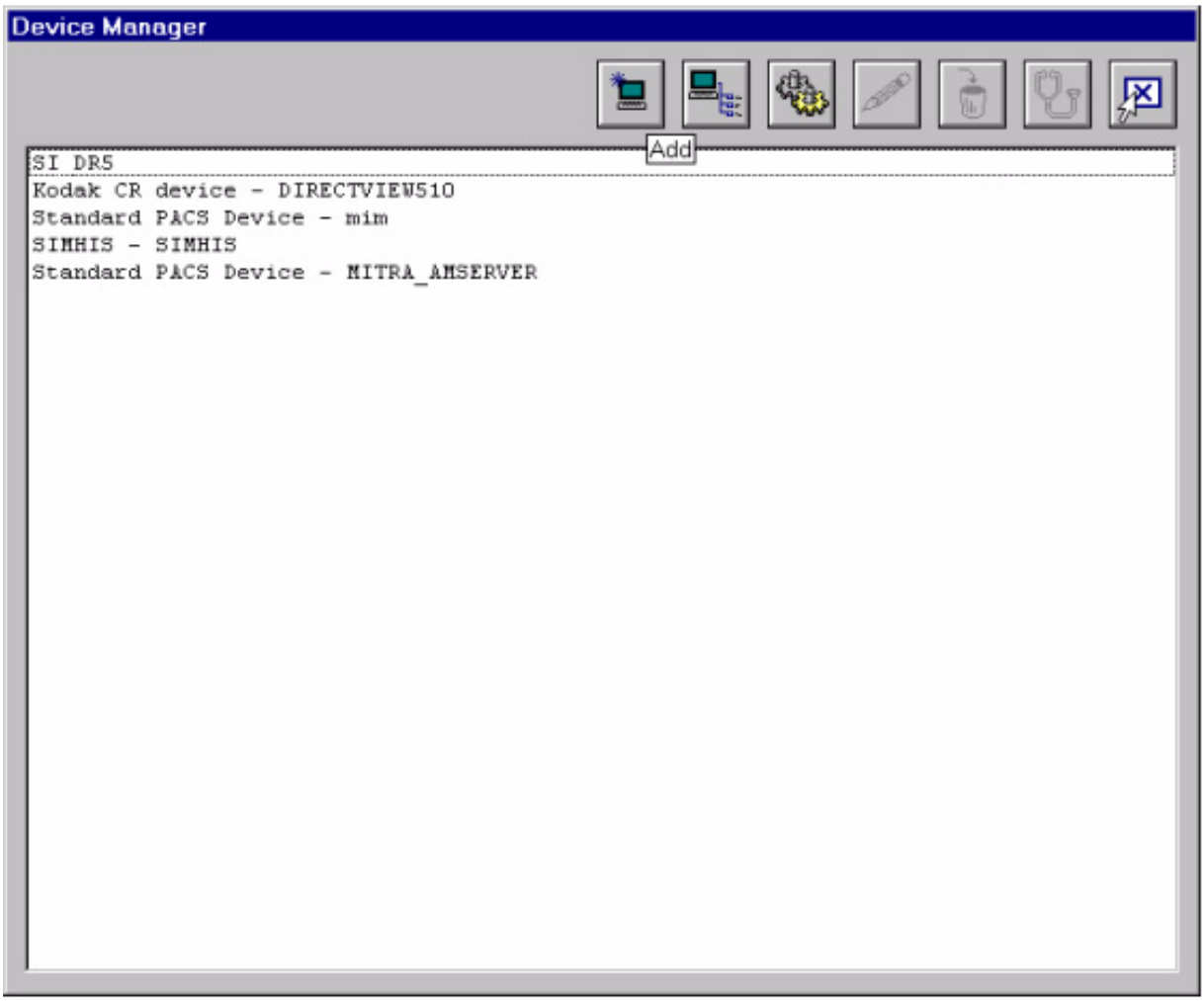
Starting with Version 5.0, the MIM uses the DICOM N-Event reporting capability of the *Mitra* PACS BROKER MODALITY Worklist "push" model. To have automatic notifications sent to it, the MIM must be registered in the *Mitra* PACS BROKER. If the MIM is not registered, or until the first "push" notification is received, the MIM will use the normal "pull" mode for obtaining MODALITY worklists.

Note

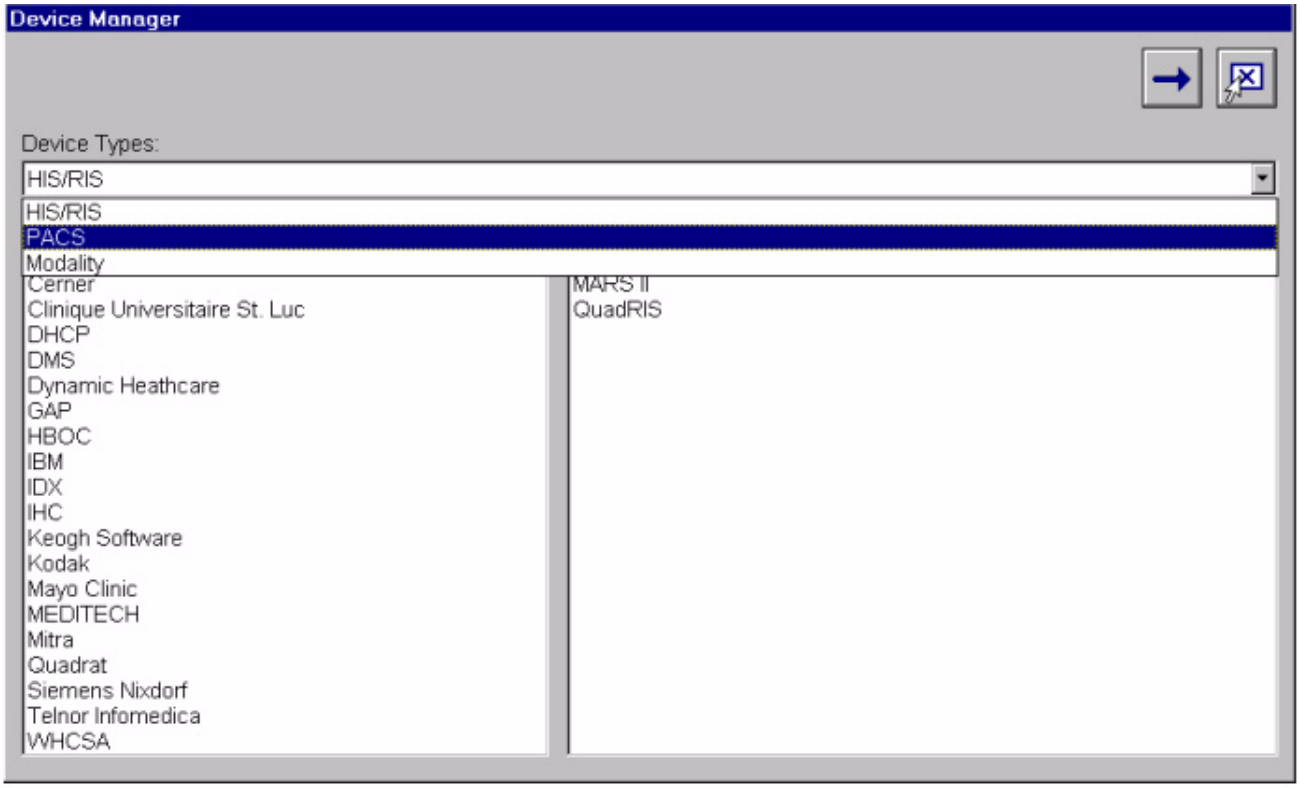
V_1.5.2 of the *Mitra* PACS BROKER does not allow Study description, which also will cause the MIM software to revert to the "pull" mode.

[1] Open the "BROKER Toolbar." You might need the password.

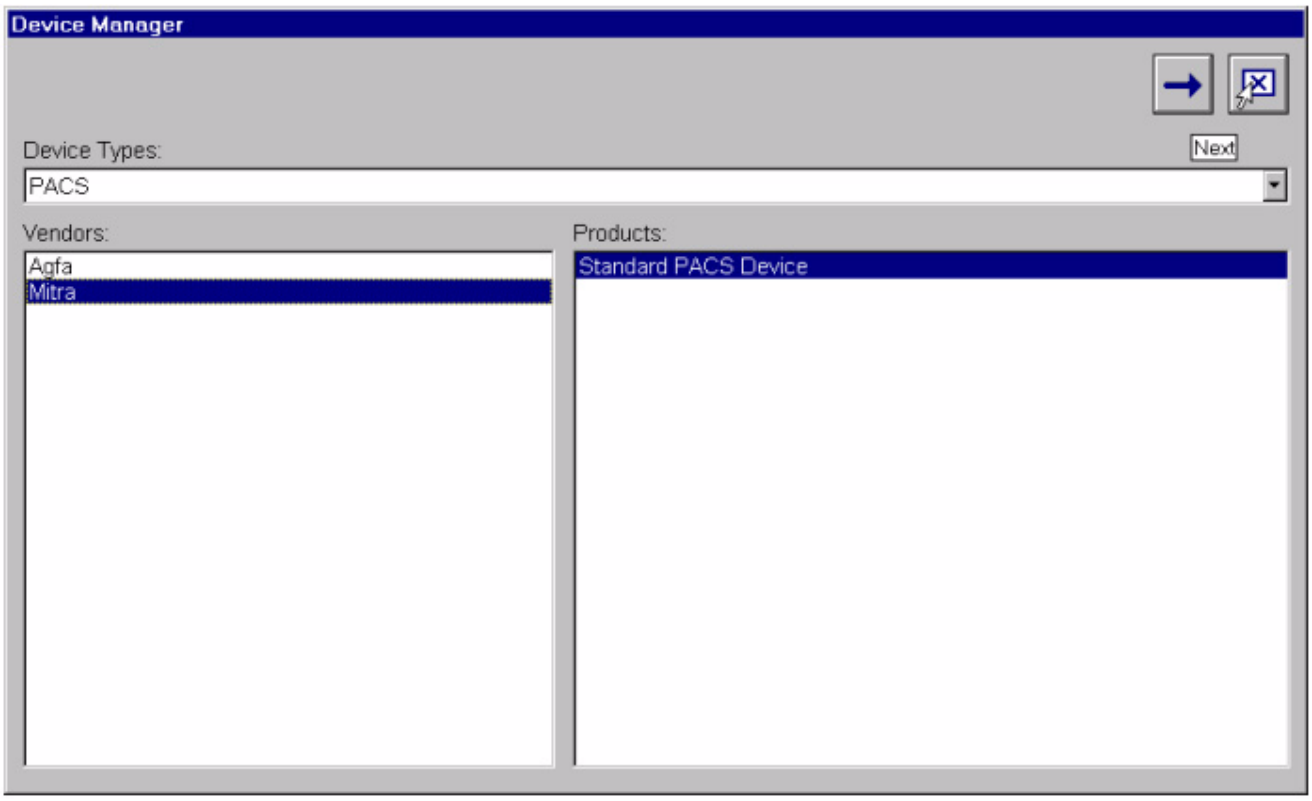
[2] Click [Device Manager] (second button from the left).



[3] From the Device Manager window, click [Add].



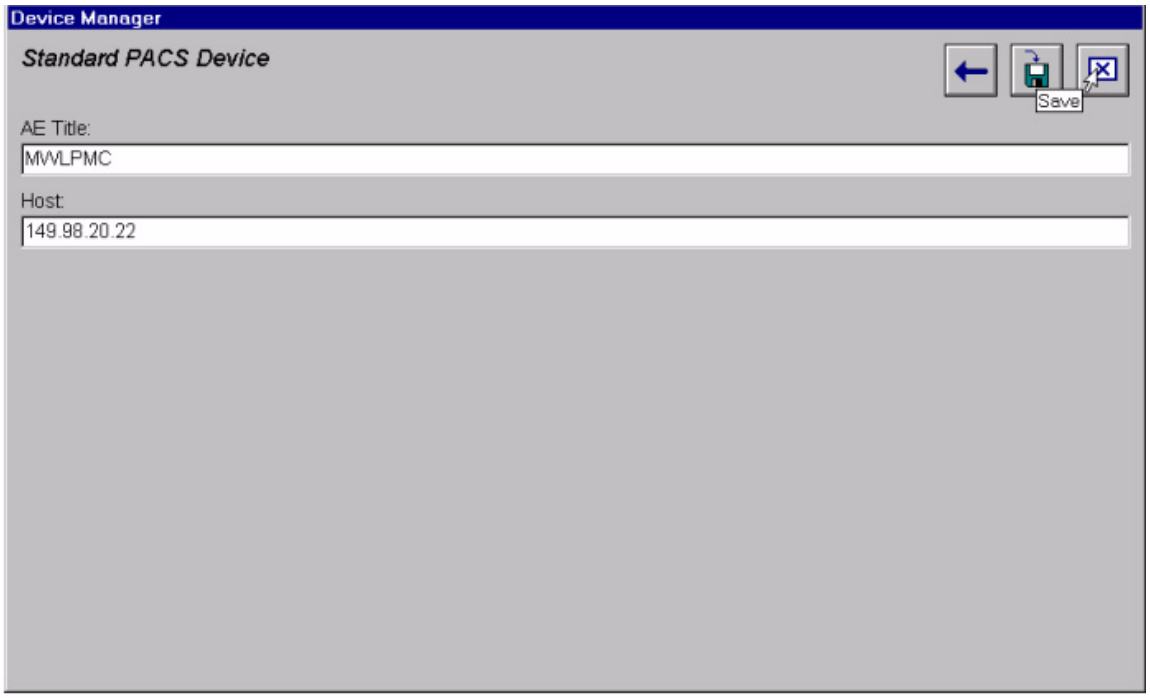
[4] From the list of Device Types, select [PACS].



[5] From the "Vendors" list, select [*Mitra*].

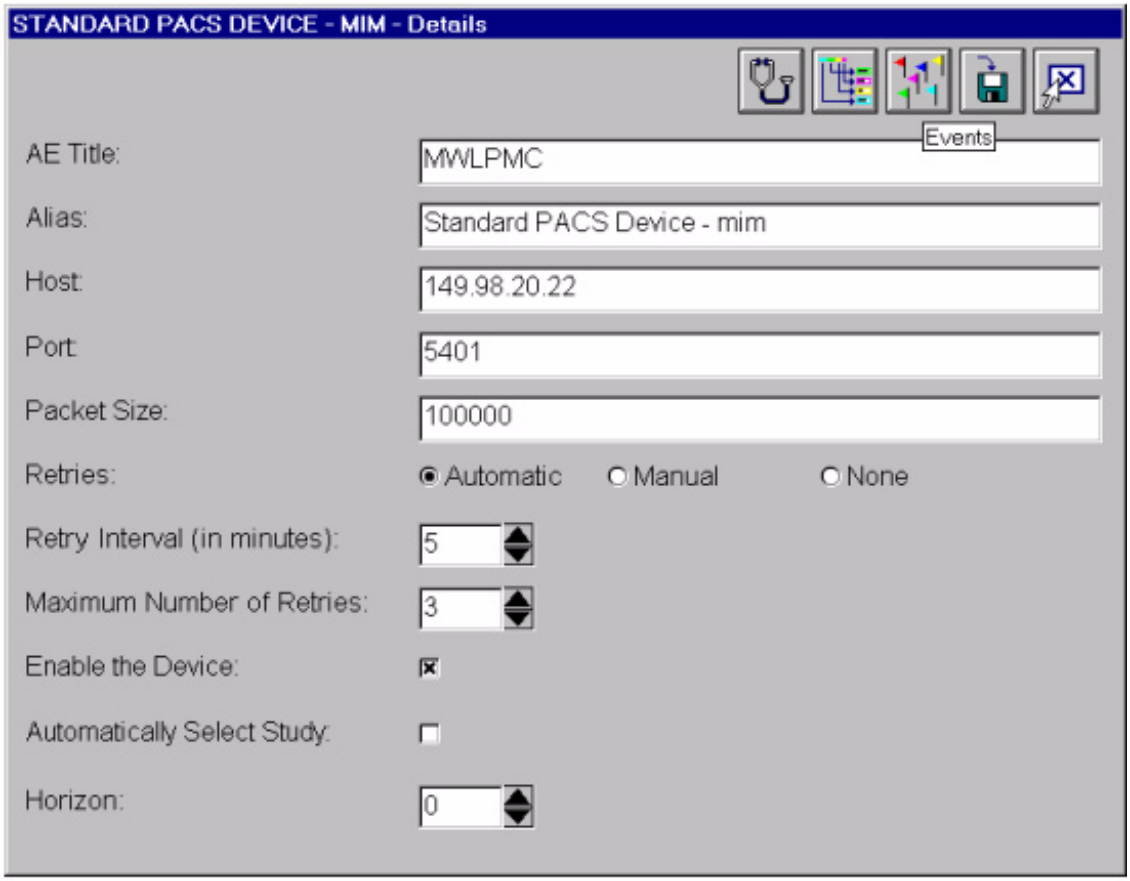
[6] From the "Products" list, select [Standard PACS Device].

[7] Click [X] to close the window.



[8] Enter the AE Title and Host Name for the MIM/MWLPMC.

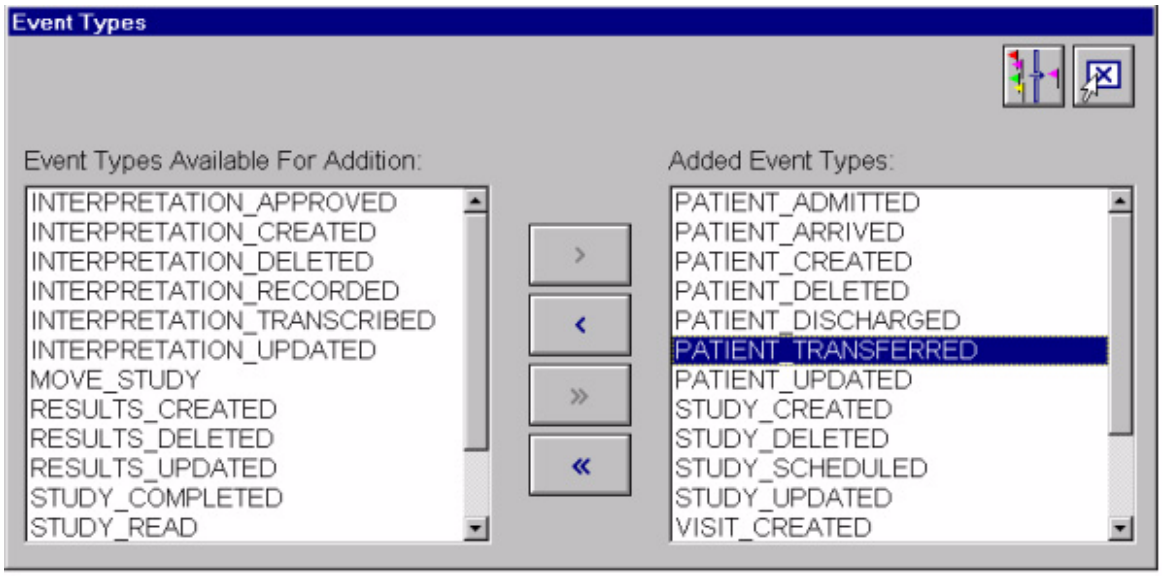
[9] Click [Save] (middle button in upper right corner).



[10] Check that the AE Title and Host name are correct.

[11] Enter the PORT Number for which the MIM / MWLPMC is set up. This is normally 5405 for MIM and 5401 for MWLPMC.

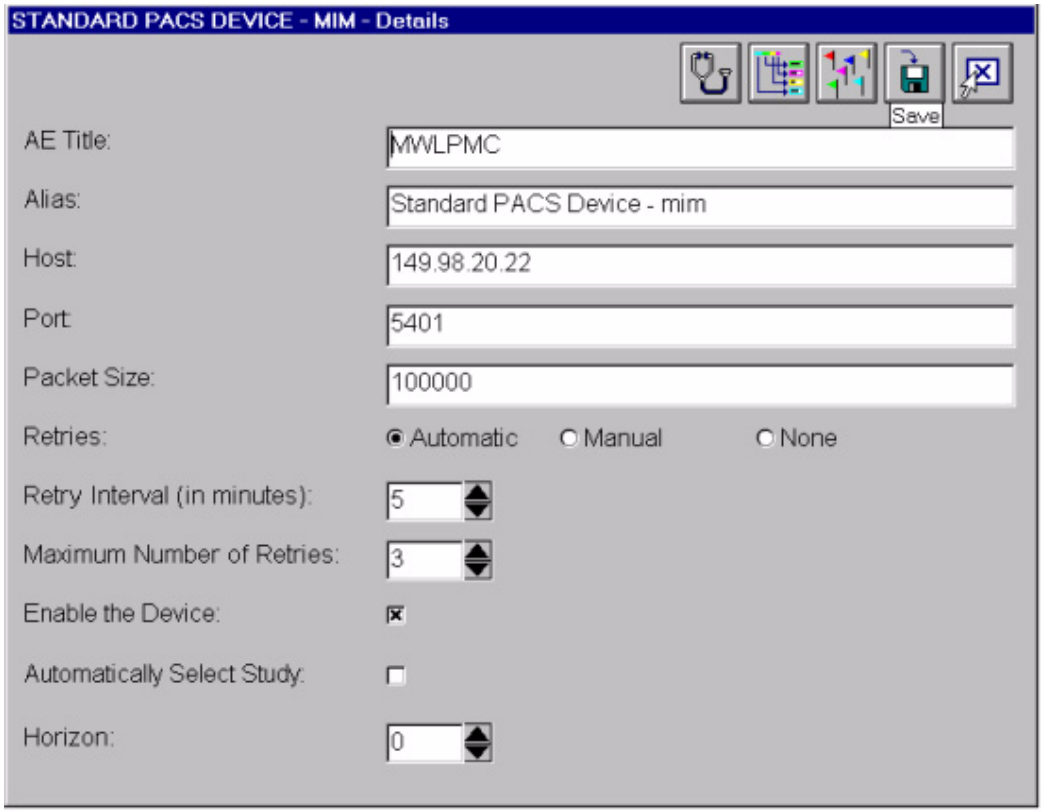
[12] Click the middle button (Events).



[13] Double-click the 4 STUDY events from the “Event Types Available...” to move them to “Added Event Types”:

- STUDY_CREATED
- STUDY_DELETED
- STUDY_SCHEDULED
- STUDY_UPDATED

[14] Close the window.



[15] From the "STANDARD PACS DEVICE" window, click [Save]. The BROKER is now configured to send N-EVENTS-REPORTS to the MIM/MWLPMC.

Important

To enter new data, you can also change the settings by clicking [Modify] on the "Device Manager" window to see the "STANDARD PACS DEVICE" window.

Section 14: Warnings and Cautions

Safety Instructions

Read and understand all instructions in this section before using the:

- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 200
- *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100
- *Kodak* PACS LINK 25 PRINT SERVER

Important

The following safety information applies to all systems covered in this manual, except where indicated.

Warning

This equipment is operated with hazardous voltage which can shock, burn or cause death.

- Use only the power cord supplied with this equipment.
- Remove wall plug before servicing equipment. Never pull on cord to remove from outlet. Grasp plug and pull to disconnect.
- Do **not** operate equipment with a damaged power cord.
- Do **not** use an extension cord to power this equipment.
- Position the power cord so it will not be tripped over or pulled.
- Connect this equipment to a grounded outlet.
- Do not place a portable-multiple-socket outlet (power strip) on the floor. Mount the power strip on a wall or on the underside of a table.

Warning

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Warning

This equipment is not contained in a sealed cabinet. Do not use this equipment in locations where it can come in contact with liquids, including body fluids.

Warning

This equipment contains a lithium battery. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Warning

Do not substitute or modify any part of this equipment without approval of Eastman Kodak Company.

Warning

Do not use in the presence of flammable anesthetics, oxygen or nitrous oxide. This equipment does not have a gas-sealed electronics enclosure and could ignite any flammable or explosive gases present in its environment.

Warning

The device is not intended to be installed within patient vicinity. The equipment must be installed no closer than 1.83 meters from a patient bed or chair. This Caution does not apply to the *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100.

Laser Warning

Avoid Laser Beam. **The CD-ROM drive in this product uses an invisible 5-milliwatt laser beam. Laser radiation may be present when the machine operates without panels or covers installed**.

Use of controls or adjustments, or performance of procedures other than those described in this document may result in eye damage. This Warning does not apply to the *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100.

Caution

Only trained service personnel are authorized to remove covers. There are no “user” serviceable parts in this machine.

Caution

This equipment is intended to connect to other medical devices. Only qualified service personnel may perform installation and service maintenance.

Caution

The *Kodak* PACS LINK 25 PRINT SERVER has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. Those limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution

The *Kodak* PACS LINK MEDICAL IMAGE MANAGERS 100 and 200 have been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. Those limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution

General External Cleaning: This equipment may be cleaned with a damp cloth using water with mild detergent or commercial electronic equipment cleaner.

Important

U.S. Federal law restricts this device to sale to, by, or on the order of a licensed health care practitioner.

For the *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100 only:

Classifications

UL Classified

File Number E183646
Control Number 9R46

Medical Equipment

UL2601-1 CAN/CSA No. 601.1

Classified by Underwriters Laboratories Inc. with respect to Electric shock, Fire, Casualty and Medical Hazards only in Accordance with UL2601-1, CAN/CSA C22.2 No.601.1 and IEC 601.1.

Safety, Regulatory, EMC and CE Marking Compliance

All safety, regulatory, EMC and CE marking information is located in the User's Guides.

Labels

The following label is located either on the CD-ROM drive or on the enclosure for the drive. The label does not apply to the *Kodak* PACS LINK MEDICAL IMAGE MANAGER 100:

Class 1 Laser
Laser de catágorie 1
Laser-Klasse 1
Laser di Classe 1
Klass 1 Laser

Kodak PACS LINK MEDICAL IMAGE MANAGER 200 (MIM 200) Safety Requirements Change

Note

Note: Only MIM 100 1.2 GHz platforms, are marketed in EEC countries for patient environment. Isolation transformer and UPS are not required

Due to recent hardware changes, there is new information about MIM 200 compliance with the Medical Device Directive (MDD) for product placement in the European Economic Community (EEC).

Compliancy with IEC 60601-1-1/EN 60601-1-1 Requirements

Under some circumstances in the EEC, the MIM 200 complies with IEC 60601-1-1/
EN 60601-1-1 general requirements for safety - Collateral Standard: Safety requirements for Medical Electrical Systems.

Depending on the MIM 200 configuration, the following requirements must be met to comply with IEC 60601-1-1/EN 60601-1-1:

- Print Server (only): The MIM 200 must be connected to the imager by fiber optic cable.
- Modality Server (only): Each image source must comply with IEC 60601-1-1/EN 60601-1-1. If there are multiple image sources, each must comply with IEC 60601-1-1/EN 60601-1-1, or meet approval for the patient contact environment.
- Combination Modality/Print Server:

  Each image source must comply with IEC 60601-1-1/EN 60601-1-1. If there are multiple image sources, each must comply with IEC 60601-1-1/EN 60601-1-1, or meet approval for the patient contact environment.

  and

  The MIM 200 must be connected to the imager by fiber optic cable or by ethernet cable through the network isolation board.

In addition, in the EEC for all configurations, the MIM 200 must be connected to the building power source and the network according to the Setup Diagram. See “Setup Diagram” on Page 14–5.

Where each of the requirements is met, the MIM 200 meets the following MDD standard:

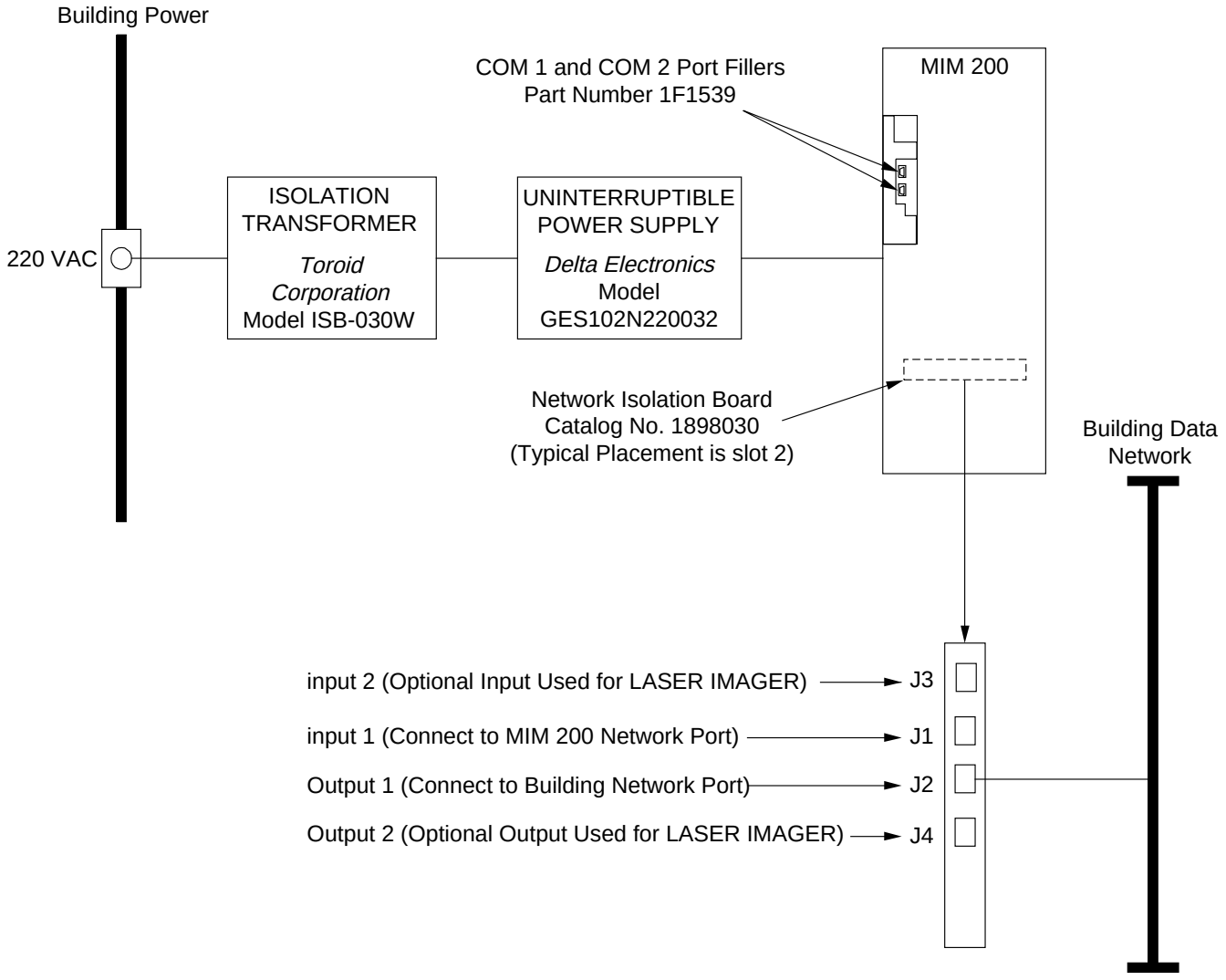
English
EUROPEAN MARKET ONLY:
This processor is Class 1, Type B medical equipment as defined by EN 60601-1.
AUTHORIZED AGENT: Manager, Product Safety; Kodak GmbH; Hedelfingerstr. 54-56; 70327 Stuttgart, GERMANY.

Setup Diagram

This setup diagram applies only to the MIM 200 when installed in the EEC.

Caution

Connections other than those in the Setup Diagram violate IEC 60601-1-1/EN 60601-1-1 requirements and therefore cannot be placed within a patient environment (1.83 meters from a patient bed or chair).



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Non-Compliancy with IEC 60601-1-1/EN 60601-1-1 Requirements

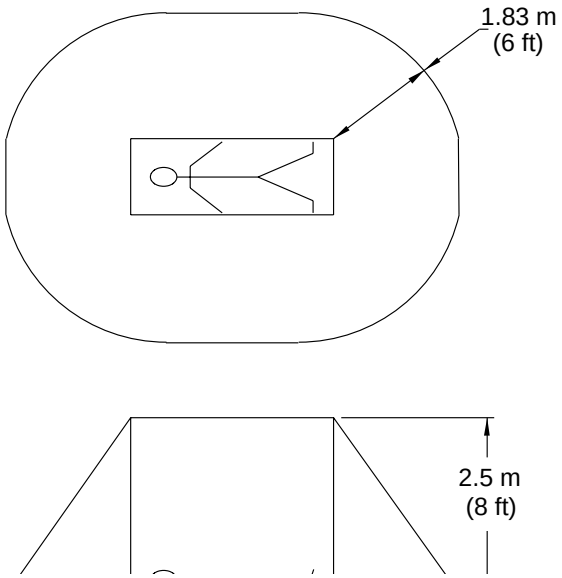
Caution

Connections described below violate IEC 60601-1-1/EN 60601-1-1 requirements and therefore cannot be placed within a patient environment (1.83 meters from a patient bed or chair).

In the following circumstances, the MIM 200 does not comply with IEC 60601-1-1/EN 60601-1-1:

- If the MIM 200 connects to an imager by an RS-422 copper cable, the MIM 200 and the imager do not comply with IEC 60601-1-1/EN 60601-1-1 and are not approved for the patient contact environment.
- If the MIM 200 receives images from an image source that does not comply with IEC 60601-1-1/EN 60601-1-1, the MIM 200 and all connected imagers are not approved for the patient contact environment. Any device in the chain that is not approved for patient contact invalidates approval for each device.
- Any setup other than that shown in the Setup Diagram on page 14–5 does not comply with IEC 60601-1-1/EN 60601-1-1.

For any of the scenarios described above, the following MDD statement applies:



English

EUROPEAN MARKET ONLY:

This device is not medical equipment according to EN 60601-1 and must therefore not enter the Patient Environment as defined in EN 60601-1-1. The following requirements have to be met:

1. Distance from device to Patient Contact Equipment (see illustration). Horizontal = 1,83 metres; Vertical = 2,5 metres above the floor under the patient.
2. Contact of patient and device simultaneously by caregiver not allowed.
3. NO direct electrical connection between device and Patient Contact Environment is allowed.

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